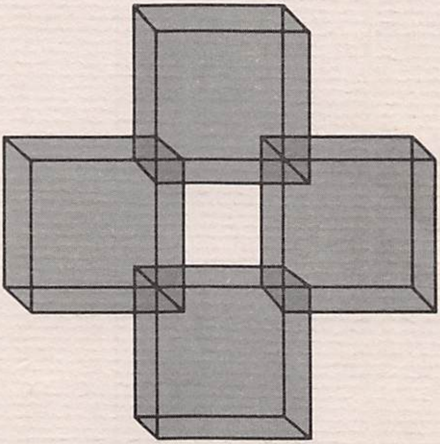
CompuPro™

Concurrent DOS 8-16™
Version 4.1E



Installation and
Customization Guide

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CompuPro

Concurrent DOS 8-16

Version 4.1E

Installation and Customization Guide

Concurrrent DOS 8-16 4.1E Installation and
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Introduction

This manual contains instructions for the installation of Concurrent DOS 8-16 version 4.1E. It provides the information required to install and customize this operating system for maximum versatility and usability.

If this is a new CompuPro computer system, the operating system may have been installed at the factory. If this is the case, it may need no further installation or modification. We recommend that you read the Introduction and Chapter 1 in any case and carefully study the table of contents for modifications that you might need to make.

What is Concurrent DOS 8-16?

Concurrent DOS 8-16 is a version of Digital Research®'s Concurrent DOS 86$^{\text{tm}}$ that has been enhanced by CompuPro to provide the user additional features and to support CompuPro's advanced hardware.

The features of Concurrent DOS 86 include:

- Multiuser support
- Windows and/or screen switching capability
- PC DOS 2.1 and MS-DOS$^{\text{tm}}$ application support
- File and record locking support
- Multitasking support
- DR Net$^{\text{tm}}$ networking extension
- CP/M-86® and Concurrent CP/M® application support

CompuPro has added the following features to create Concurrent DOS 8-16:

- Support for 8- and 16-bit slave processors
- Security and accounting features
- AMCALL communications software support
- Comprehensive installation program
- GEM VDI drivers for use with GEM software
- Support for MDrive/H$^{\text{tm}}$ as a high speed memory drive
- Support for MDrive/H as a high speed cache buffer
- PC VIDEO support
- Menu+ menu system
- Support to read many different floppy disk formats

These features make Concurrent DOS 8-16 one of the most powerful and sophisticated multi-user operating systems available for use on microcomputers today.

Hardware Requirements

To install and use the Concurrent DOS 8-16 system, you must have a CompuPro 286-type system or an IEEE 696/S-100 bus system consisting of the components listed below.

Minimum configuration:

- Enclosure: Computer Enclosure with a terminated IEEE 696/S-100 motherboard.
- Processor: Either a CPU 8085/88^{tm}, CPU 8086/87^{tm}, or CPU 286^{tm} as the host processor.
- Support: System Support 1^{tm} board.
- Memory: RAM 16^{tm}, RAM 17^{tm}, RAM 21^{tm}, RAM 22^{tm}, RAM 23^{tm}, or RAM 24^{tm} to provide at least 512K of RAM.
- I/O Control: Interfacer 3^{tm}, Interfacer 3A, or Interfacer 4^{tm} board for console, printer, and modem I/O control.
- Mass Storage: DISK 1A^{tm} floppy disk controller with a 5.25" 96 TPI or an 8" double-sided, double-density floppy disk drive.
- Terminal: Any terminal capable of 19.2K baud.

Recommended Options:

- Terminal: A terminal that supports cursor addressing, user writable status line, and extra paging capability. (For example, TeleVideo^{tm} 925/950 or Qume^{tm} 108.)
- Hard Disk: DISK 3^{tm} hard disk controller and a hard disk drive supported by CompuPro.

Suggested Options:

- Memory: As much memory as you can get (up to 1 megabyte). You'll find that with Concurrent DOS 8-16, you'll want to run more programs, and this requires more memory. (With 512K and a system set for six users with one virtual console each, about 300K of free space remains. Networking reduces this by about 72K.)

• MDrive/H:	Disk drive emulator and hard disk cache buffer. (The operating system's default configuration takes the first 512 Kbytes for a hard disk cache buffer.)
• PC VIDEO:	The PC VIDEO option greatly increases the number of PC DOS programs that can be run.
• Additional Interfacer 3 or 4:	For connecting up to 14 users.
• Tape Backup unit:	For tape backup with TIP100.
• SPUZ^{tm}	For 8-bit software support.
• NET 100^{tm}	For inter-system networking
• SP186^{tm}	For 16-bit multi-processing

Related Documentation and Software

In addition to this manual, new CompuPro computer systems are shipped with the following system documentation:

- A hardware installation guide
- A system user guide

CompuPro systems also include the following software and software documentation:

- Concurrent DOS 8-16 System Master Disks
- *Concurrent DOS 8-16 User Guide*
- Several applications packages with software and documentation included
- Documentation for Menu+.
- AMCALL software and documentation

You might also want to refer to the following documentation (not supplied, but available at extra cost):

- *Concurrent CP/M Operating System User's Documentation*
- *Concurrent CP/M Operating System Programmer's Reference Guide*
- Technical and/or installation manuals for CompuPro boards and computer systems

Manual Conventions

The following conventions are used in this manual:

- A single underline (_) shows the current cursor position.
- Commands that you type are shown in **boldface**. When typing a command:

  UPPER-CASE is used for command names and other entries that you type in exactly as written.

  {*lower-case*} is used for variable entries, where you supply a particular name or number.

For example, with the command ERA {*filename*} you would type the three letters "ERA" (in upper or lower case -- it does not matter to the system) and then type in a filename that you supply, such as TEXT.DOC, HARRY.BAT, or MEMO0317.

- Special keys are shown as [key] in the text. A key is not shown in boldface unless it is the only entry in a step.

  When you see [RET] in the text, it means to press the return key.

  When you see [ESC] in the text, it means to press the Escape key.

  In order to use some commands, you need to be able to use the control key [CTRL]. It is used very much like the shift key on a standard typewriter. You hold the control key down while pressing another key. For instance, when you see [CTRL-C] in the text, it means to hold the [CTRL] key down, then press and release the C key.

CHAPTER 1

Installation Overview

Installing the Concurrent DOS 8-16 operating system is a simple operation if all of the steps are followed carefully and completely.

If this is an upgrade to an existing CompuPro 40 Mbyte system, it is absolutely essential to back up Drive E: because its space has been added to Drive D. If necessary, Drive E: can be restored by reassembling and relinking the XIOS. If Drive C: has been formatted as DOS media, it must also be backed up.

Hardware Requirements for Operating System Installation

To perform this installation, you must have:

- A system that meets the requirements outlined in the Introduction

- A master console that is either:

  an RS-232 terminal connected to the master system console I/O port on the System Support 1 board. The terminal must be configured at:

  - 19.2K baud
  - 8 data bits, 2 stop bits, no parity
  - DTR handshaking enabled
  - no screen switching
  - A shielded RS-232 cable with a minimum of the following lines connected:

(1)	Chassis Ground
(2 and 3)	Data lines
(7)	Signal Ground
(20)	DTR for handshaking

  or:

  a PC VIDEO board in the system configured in Color mode with an IBM®-compatible keyboard and a Color RGB monitor connected

- A 5.25" or 8" floppy drive connected and operating

- A set of CDOS 8-16 SYSTEM MASTER disks in either 5.25" or 8" size depending on the floppy drive size.

Installation Sequence

Step 1. Boot a basic operating system.

A new CompuPro computer system may have been installed with an operating system at the factory. If this is the case, you need to perform only some of the steps outlined in Chapters 2 and 3.

We do recommend, however, that you read these chapters and become familiar with the procedures required to boot a basic operating system.

If you are reinstalling an operating system or if the system has not yet been installed, you need to read and follow the instructions in Chapters 2 and 3 carefully.

Chapter 2 describes the procedure for bringing up a floppy-based system. Whether or not there is a hard disk on the system, booting a floppy-based system is the first step in bringing up the operating system.

If you do have a hard disk, you must also perform the steps described in Chapter 3.

Step 2. Set up the basic operating system.

Chapters 3 through 8 guide you through the steps required to perform the software installation for your particular system configuration.

Step 3. Modify the operating system.

The system files on the CDOS 8-16 SYSTEM MASTER disks are configured as described below. You may find that this is acceptable and never need to reconfigure the system, or you may want to modify the system to suit your needs. The instructions for modifying an operating system are in Chapters 8 through 10.

The standard configuration is shown on the following page.

- A total of six console devices:

  Console configuration is determined by the choice between the standard and the PC VIDEO systems.

  On a non-PC VIDEO system, these console devices are six standard terminals set up as follows:

  - 19.2K baud
  - 8 data bits, 2 stop bits, no parity
  - DTR handshaking enabled
  - no screen switching

  On a PC VIDEO system, these console devices are five standard terminals as above and a PC-style color monitor and keyboard with four virtual consoles.

  The master system console is on the System Support 1 board in non-PC VIDEO systems. In PC VIDEO systems, the master system console is on the PC VIDEO board. If you have a PC VIDEO system, make sure that no console is connected to the System Support 1 board.

  On Interfacer 3 and 3A boards, the second through sixth consoles are mapped as relative users 6, 3, 2, 1, and 0, respectively. On an Interfacer 4 board, the second console is mapped as relative user 6.

- Two printers mapped as User Ports 4, and 5 on the Interfacer 3, 3A, or 4 board.

- One modem port configured as User Port 7 on the Interfacer 3, 3A, or 4 board.

- Up to four floppy disk drives where two are 5.25" drives and two are 8" drives.

- A hard disk drive, if it is a hard disk operating system, of the type supported by CompuPro in the operating system. The type of drive supported is determined by the system file chosen.

- A hard disk cache buffer of 512K bytes if MDrive/H is present.

- SPUZ not installed.

- Tape drive not installed.

- SP186 not installed.

Step 4. Installation Backup and Documentation.

Chapter 11 covers installation backup and documentation. **Do not omit this step.** Be sure to follow the procedures in this chapter when you complete your installation.

Step 5. Install utilities and applications software.

Refer to the documentation shipped with the applications packages for installation instructions and to Chapter 12 for some hints on installing software on CompuPro systems. Chapter 13 covers DR Net network installation. Chapter 14 covers installation of the VDI drivers needed to use GEM software.

Appendices

The CDOS 8-16 SYSTEM MASTER Disks come with an almost bewildering array of system, XIOS, and loader files for all of the standard CompuPro configurations. To help you sort them out, Appendix A has the file names arranged in tables according to configuration.

If you need to modify the loader for a non-standard boot configuration, refer to Appendix B. Appendix B also contains the patch procedure for GENCCPM.CMD terminal characteristics.

Appendix C is a list of files that you are recommended to keep on Drive A, user 0 (0A:) for the day-to-day operation of Concurrent DOS 8-16.

Appendix D is a summary of switch and jumper settings for CompuPro boards.

Using HELP.CMD as an Installation Aid

Once you have booted up the operating system, you might want to acquaint yourself with the help program that is included in the system software. The help program gives you on-screen help from a menu of topics, describing many of the utilities you may use in software installation.

For an on-screen description of the help program, type:

```
HELP HELP  [RET]
```

CHAPTER 2

Booting a Floppy-Based System

If you are installing a system that is already configured and operating, read Steps 1 and 4 for information only. After you boot up a factory-configured system, and the sign-on message appears, a batch file may take over and place you into the menu program. Press [ESC] to exit from the menu to the system prompt (0A>). Proceed with Steps 2 through 4 of Chapter 2 before continuing to Chapter 4.

NOTE: The instructions in these steps are for a floppy-only system. When you use an operating system that has already been installed for a hard disk-based system, use the drive names appropriate to that system.

Before beginning the operating system installation, make sure that the system is configured properly and is ready to boot. If the system has previously been running an earlier version of Concurrent DOS or MP/M 8-16^{tm}, there may be changes in the way the switches are set.

See Appendix D on system hardware switch and jumper settings if you have any doubt concerning the hardware settings.

Step 1. Boot a Floppy System.

Make sure the switches on the DISK 1A are set for the correct size floppy boot and "86" BOOT code!

Turn on the power to the system. You should see the drive select light on the boot drive flash brightly at least once.

Put the following CDOS 8-16 SYSTEM MASTER Disk into the floppy boot drive:

- For a 5.25" floppy boot drive:

  Disk 1 of 5 for a non-PC VIDEO operating system or, if you are installing a PC VIDEO operating system with a color system console, Disk 5 of 5

- For an 8" floppy boot drive:

  Disk 1 of 4 for a non-PC VIDEO operating system or, if you are installing a PC VIDEO operating system with a color system console, Disk 4 of 4

The floppy drive should load and click several times.

The following message appears on the screen:

```
Can't open CCPM.SYS.
What CCPM*.SYS Do You Want To Read?
```

The choice of CCPM*.SYS file depends on the size of the floppy boot disk and what type of master console you are using. Use the following table to select the appropriate CCPM file and type in only the characters shown in **bold.**

Drive Size	Terminal Console	PC VIDEO Console
5.25" BOOT	CCPMF58.SYS	CCPMF58P.SYS
8" BOOT	CCPMF85.SYS	CCPMF85P.SYS

For example, if there is a 5.25" BOOT disk on a system with the PC VIDEO option, you should type:

```
F58P
```

If you type fewer than four characters, you must also type **[RET]**. For example, if there is a 5.25" boot disk with a standard master console, you should type:

```
F58  [RET]
```

The appropriate system file is loaded into the computer and a sign-on message something like the following appears on the screen.

```
CompuPro XIOS Ver 4.1E
 Total Memory:   xxxK
x Megabytes M-Drive/H active
Disk 1A Controller present:
           8 inch Drives as    C: D:
           5-1/4" Drives as    A: B:

Concurrent DOS 4.1
Copyright (C) 1985, Digital Research
****CompuPro Concurrent DOS 8-16 Version 4.1E-1 4/22/86****
Concurrent DOS 8-16 Copyright (C) 1983,1984,1985 VIASYN
XIOS,SHELL,Copyright(C)1981,1982,1983,1984,1985 VIASYN
Serial Number 0272-xxxx

CompuPro Concurrent DOS 8-16
PC Mode

0A>
```

At this point, a batch file may take over and place you into the menu program, and the system menu appears. Press [ESC] to exit from the menu to the system prompt (0A>).

Remember, the version of the operating system that you just booted knows nothing about the hard disk (if present), and you cannot "PIP" files to it. You can, however, format the hard disk from this system.

Step 2. Format Disks for Backup.

The first thing to do after booting a system is to create backup copies of the boot disks. This consists of formatting several disks and then copying the contents of the master disks onto the freshly formatted disks.

Format enough disks to make backup copies of the system master disks and a few extra disks for creating a custom boot disk. You must use double-sided, double-density disks to make copies of your masters. The 5.25" floppy disks must have 96 tracks per inch (TPI).

To format a floppy disk, run FORMAT.CMD. FORMAT.CMD is on Disk # 1 of the system master disks.

FORMAT has simple and straightforward operating instructions. You are prompted for input to control the process. Start FORMAT by entering the following:

```
FORMAT   [RET]
```

or

```
FORMAT {drive}   [RET]
```

CAUTION: If you are formatting from the same drive as the system disk, be sure that you remove the system disk and insert the blank disk before starting the format! In any case, never disable the write-protect feature on the master disks.

If the drive is not specified on the command line, FORMAT prompts you with the following display:

```
Specify drive (A: - P:)  :
```

Enter the drive (A thru P), and FORMAT continues.

After you have specified the drive to be formatted, a message requesting the new format selection is displayed.

The displays look like the following:

For a 5.25" disk:

```
              ACTIVE BIOS 5-1/4" formats:
type #          title         sides   sector size
    (0) CompuPro default   Single    128 byte
    (1) CompuPro default   Double    256 byte
    (2) IBM and Special Formats      512 byte
    (3) CompuPro default   Double   1024 byte

         Select disk format type (0-3): ==>
```

To select the correct format for a 5.25" operating system disk, type:

`3 [RET]`

For an 8" disk:

```
type#   title               Density Sector Size
   (0) IBM 1(3740)          Single   128 byte
   (1)                      Double   256 byte
   (2)                      Double   512 byte
   (3)                      Double  1024 byte

         Select format type (0-3):
```

To select the correct format for an 8" operating system disk, type:

`3 [RET]`

When you have entered the format type, the following message appears:

Confirm ready for format on disk drive {*x*}

Type:

`Y`

The FORMAT utility begins formatting the disk. As each track is formatted, an F appears on the screen. After formatting all the tracks, FORMAT begins a verify operation that shows you possible bad spots on the floppy disk.

The screen looks like the following:

```
          1         2                 6         7
012345678901234567890    .  .  .    01234567890123456789
FFFFFFFFFFFFFFFFFFFFF    .  .  .    FFFFFFFFFFFFFFFFFFFF
VVVVVVVVVVVVVVVVVVVVV    .  .  .    VVVVVVVVVVVVVVVVVVVV
```

If the verify fails on any track, you see an S or an E. An S signifies that an error occurred but retry worked. An E signifies a hard failure, and you should use another disk.

After the verification, the following display or something like it appears on the screen:

```
Format complete ...

Do you want to format another disk?
      R - request new parameters.
     cr - duplicate last FORMAT.
      N - exit back to system.
```

At this point, you may either format additional disks or, if you are done, exit back to the operating system.

Step 3. Backup the System Master Disks.

Make sure that the system master disks are write-protected, then copy each of them onto the newly formatted blank disks. Use DISKCOPY.CMD if you have two 5.25" or two 8" drives. If there is only one drive of the size of the system master disks, use SCOPY.CMD.

Both of these programs may be found on Disk 1 of the system master disks. Remember that the floppy drives are A, B, C, and D, since you are running a floppy-only system file.

DISKCOPY.CMD and SCOPY.CMD both have simple and straightforward operating instructions. You are prompted for input to control the amount of the disk copied and the source and destination drives.

- If you have two 5.25" or two 8" floppy drives, start the copy process by typing:

```
DISKCOPY  [RET]
```

- If you only have one floppy drive of the size of the system master disks, you must maximize the amount of memory available before using the SCOPY.CMD program to copy the disks from a single drive.

  Insert Disk 2 of the system master disks and then type:

  ```
  SETMEM 1023   [RET]
  ```

  Replace Disk 1 and then type:

  ```
  SCOPY   [RET]
  ```

When prompted, you want to copy ALL of the disk, and choose the appropriate source and destination drives. Ready the proper disks and start the copy. SCOPY prompts you to alternate between the source (master) disk and the destination (copy) disk.

When the copy is completed, continue until all disks are copied, label the back-up disks, and store the masters in a safe place. You should only use the master disks again if the copies get damaged.

If the system has a hard disk, skip the following sections and proceed directly to Chapter 3.

Step 4. Create a Custom Floppy BOOT Disk.

Creation of the custom BOOT disk in a floppy-only system requires that the system have either two floppy drives or a floppy drive and an MDrive/H board in the system.

The BOOT disk should contain the files that are used on a regular basis in a floppy-only system. These files should be copied to the custom BOOT (system) disk using PIP.CMD.

To use PIP.CMD to copy files from one disk to another, use the following format:

```
PIP B:=A:{filename}[VROW]   [RET]
```

where B: is the destination drive, A: is the source drive, and *{filename}* is the name of the file.

If you are unfamiliar with the operation of PIP.CMD, you should become more familiar with this program by reading the Concurrent DOS 8-16 User Guide, or by accessing the HELP program.

If you only have one floppy and an MDrive/H, PIP the files to M:, insert the blank disk in A:, and then PIP the files from M: to A:.

NOTE: To access PIP on drive M:, you must preface your PIP command with M:. For instance, to copy all batch files from M: to A:, type:

```
M:PIP A:=M:*.BAT[VROW]   [RET]
```

You should keep the following files on drive 0A: (the system disk) for day-to-day operation of Concurrent DOS 8-16.

NOTE: The file CCPM.SYS is created from the CCPM(*xxxx*).SYS file on the master disk by typing:

```
PIP B:CCPM.SYS=A:CCPM(xxxx).SYS[VROW]  [RET]
```

where xxxx is the file type chosen in step 1.

Files All Systems Must Have:

TTYS
LPRS
MFORM .CMD
CCPM .SYS
BATCH .CMD

Files All Systems Should Have:

ERA .CMD
CLOCK .CMD
SET .CMD
PIP .CMD
SETMEM .CMD
SDIR .CMD
TYPE .CMD
DISKCOPY .CMD
SHOW .CMD
SUBMIT .CMD
SYSDISK .CMD
SYSTAT .CMD
ERAQ .CMD
REN .CMD
STOP .CMD
DIR .CMD

Optional Files:

MONTHLY
CHSET .CMD
XD .CMD
SYSGEN .CMD
8BIT .BAT
ERASE .EXE
PATH .EXE
REN .EXE
COPY .EXE
SPL .CMD
PRINTMGR .CMD
DSP .CMD
SP .BAT

Choose one of these sets of files depending on which 8-bit environment you want and install the Switch as described in Chapter 6

For hardware SPUZ:

SPUZ .BAT SW!SPUZ .CMD SPZ .CMD
AUTOSPUZ .BAT

For software EMULation:

SW!EM .CMD EMUL .BAT

For the 8085 CPU on the dual CPU card:

SW!8085 .CMD CAP8085 .CMD S8085 .BAT
AUTO85 .BAT

If you have an SP186 board

SW186 .CMD INIT186 .CMD STOP186 .CMD
ST16 .CMD

If you want each console to come up into some program or program sequence

CONSOLE0 .BAT CONSOLE1.BAT CONSOLE2 .BAT
etc.

If you want the HELP system

HELP .CMD HELP .HLP

If you want to add or change passwords

PASS .CMD

If any floppy drive that is in the system is the only one of its size

SCOPY .CMD

If you have one or more 5.25" drives

NEWMEDIA .CMD

If you want the MENU System, include

LSTED .CMD
TXTED .CMD
MENU+ .CMD
NOW .CMD
ADDER .CMD
VIEW .CMD
UTILITYS .CMD
TYPER .CMD
VF .CMD
COMPARE .CMD
MENU .BAT
MENUSDIR .BAT
MENUXD .BAT
MENUSET .BAT
MENUPIPC.BAT
MENUDIR .BAT
MENUPIPS.BAT
MENULOG.BAT
APPL .TXT
BACK .TXT
COMM .TXT
DIR .TXT
MENU .TXT
MENUHELP.TXT
HELP .TXT
NET .TXT
UTIL .TXT
APPL .LST
BACK .LST
COMM .LST
DIR .LST
HELP .LST
MENU .LST
NET .LST
UTIL .LST

If you have a PC VIDEO board (color or monochrome)

WINDOW .CMD
CARDFILE .CMD
CARDDECK.BAT
WMENU .CMD
CARDFILE.DIS
FUNCTION.CMD
CARDFILE .EDX

Step 5. Install the Loader on the Floppy Boot Disk.

To install the loader on the system disk, use the SYSGEN command. The loader files are on Disk 3 of the 5.25" system masters and Disk 2 of the 8" system masters. The command takes the form:

```
SYSGEN X:{filename}   [RET]
```

where *{filename}* is the appropriate file name from Appendix A, and X: is the drive that contains the disk with the loaders.

For example, the system has a 5.25" floppy boot drive and no PC VIDEO. Insert the disk with the loaders on it into drive B:, and type:

```
SYSGEN B:LDCCPMF5.86   [RET]
```

When you are asked what your destination drive is, insert the system disk into drive A: and type:

```
A [RET]
```

To exit the SYSGEN utility, press [RET] again.

NOTE: If you have only one floppy and an MDrive/H, use the MDrive/H as the drive that contains the loaders.

Step 6. Reboot the System.

Press RESET and the system should now boot from the new system boot disk. If you have any problems, carefully review the above steps for any errors you might have made, and repeat those steps.

At this point, you have created a new system master disk with a "standard" system file. If you need to customize the system to your specifications, proceed to Chapter 4 for additional installation instructions.

CHAPTER 3

Booting a Hard Disk-Based System

Introduction

The steps required to install a hard disk system consist of formatting the hard disk, rebooting the operating system with a hard disk system file, and transferring the files from the freshly created back-up disks onto the hard disk.

Many newer CompuPro systems are shipped from the factory with the drive formatted, bad tracks mapped out, and the operating system loaded on the hard disk. The drive should be reformatted only if the previous format has been damaged.

CAUTION: If you are installing Concurrent DOS 8-16 version 4.1E on a computer system that has information on the hard drive, be very careful not to loose your valuable files.

- If you are upgrading from an earlier version of the operating system and you are not reformatting the hard disk, be aware that revision E adds the area of the hard disk that was once Drive E: to Drive D:. This means that any files on drive E: will be lost. Back them up BEFORE you boot the hard disk system.

- If you are upgrading from Concurrent DOS 8-16 version 4.1D and Drive C: has been used as PC DOS media, you must backup all files on Drive C:, run MAKEDOS again, and reload the files. The logical partitioning on DOS media has changed and is incompatible with version 4.1D.

- If you are reformatting a hard disk that has data on it, you must save ALL of the important data and applications software on disk for reloading later. The process of formatting the hard disk completely erases all of the data on the hard disk.

Step 1. Format the Hard Disk.

Formatting the hard disk can take anywhere from 2 to 8 hours, depending on which revision of the controller board you have and the size of your hard disk.

Boot the system with the floppy boot disk. Insert Disk 2 of the system master backup disks (either 5.25" or 8") into floppy drive A:.

A disk labelled "BAD SECTOR MAP" may be included with the system disks of new CompuPro systems for use when reformatting the drive. If you have this disk, type:

```
DISK3 {drive type} BADSEC ALL  [RET]
```

DISK3 will prompt you for further actions.

If you do not have the BAD SECTOR MAP disk, type:

```
DISK3 {drive type} ALL  [RET]
```

DISK3.CMD prompts you to confirm that you really want to reformat your hard disk. To confirm, type:

```
Y
```

To find out the drive types supported by DISK3, type:

```
DISK3 ?  [RET]
```

A list of options for DISK3 is displayed on the screen. The last line is a listing of the drive types, with the default drive type listed first.

For more information on drive types, insert Disk 4 of 5 of the 5.25" system master disks or Disk 2 of 4 of the 8" system master disks and type:

```
HELP DISK3 ARGS  [RET]
```

NOTE: If your drive has been formatted with and has been working fine running Concurrent DOS 8-16 version 3.1 or 4.1, you can do a less time-consuming reformat by typing:

```
DISK3 READ FORMAT VERIFY  [RET]
```

This reads the bad table information created by the previous format and maps out the bad spots from that table and those found by the above options.

Step 2. Boot a Hard Disk System.

Turn on the power to the system if it is not already on. You should see the drive select light on the floppy boot drive flash **brightly** at least once.

Put the following CDOS 8-16 SYSTEM MASTER Disk into the floppy boot drive:

- For a 5.25" floppy boot drive:

  Disk 1 of 5 for a non-PC VIDEO operating system or, if you are installing a PC VIDEO video system with a color system console, Disk 5 of 5.

- For an 8" floppy boot drive:

  Disk 1 of 4 for a non-PC VIDEO operating system or, if you are installing a PC VIDEO video system with a color system console, Disk 4 of 4.

Press **RESET**. The floppy drive should load and click several times.

The following message appears on the screen:

```
Can't open CCPM.SYS.
What CCPM*.SYS Do You Want To Read?
```

The choice of CCPM*.SYS file depends on the size of the hard disk, and whether you are using a terminal or the PC VIDEO as the console device.

Use the following table to select the appropriate CCPM file and type in only the digits shown in **bold**.

	Terminal Console	PC VIDEO Console
40 Mbyte HD	CCPM340.SYS	CCPM340P.SYS
80 Mbyte HD	CCPM380.SYS	CCPM380P.SYS

For example, you are installing a system with a 40 Mbyte hard disk and a DISK 3 controller with the PC VIDEO option.

Type:

340P

If you type fewer than four characters, you must also press [RET]. For a 40 Mbyte hard disk and no PC VIDEO option, type:

```
340  [RET]
```

The appropriate system file is loaded into the computer and a message like the following appears:

```
CompuPro XIOS Ver 4.1E
 Total Memory:   xxxK
x Megabytes M-Drive/H active
  Usage:  x.x  Meg. as drive M.
          0.50 Meg. as Hard Disk Cache Buffer
Disk 1A Controller present:
           8 inch Drives as     I: J:
           5-1/2" Drives as     K: L:
Disk 3/ Q540 unit #0            A: B: C: D:

Concurrent DOS 4.1
Copyright (C) 1985, Digital Research
****CompuPro Concurrent DOS 8-16 Version 4.1E-1 4/22/86****
Concurrent DOS 8-16 Copyright (C)1983,1984,1985 VIASYN
XIOS,SHELL,Copyright(C)1981,1982,1983,1984,1985 VIASYN
Serial Number 0272-xxxx

CompuPro Concurrent DOS 8-16
PC Mode

0A>
```

Only the system console comes up, because the TTYS and LPRS files are not yet present to initialize the other terminals or the printers.

Step 3. Copy the Operating System Files Onto the Hard Disk.

The batch files COPY5.BAT, COPY5P.BAT, COPY8.BAT, and COPY8P.BAT copy files from the system master disks onto the appropriate disk and user area of your hard disk. The batch files PIP only the files appropriate to your configuration onto your system disk. The loader and XIOS files and the files necessary for XIOS modification are PIPed onto Drive 15A:; all other files are PIPed onto Drive 0A:. You are prompted to change disks, until all the necessary files have been copied.

Be very careful to insert the disks in the order in which you are prompted. Otherwise some of the files may not be copied. If you think you got the files out of order, just repeat this step.

Use the following instructions to copy the files you need onto the hard disk:

- For a 5.25" floppy boot drive:

  Insert CDOS 8-16 SYSTEM MASTER Disk 1 of 5 into the floppy drive.

  To log onto the floppy disk drive, type:

  ```
  K:   [RET]
  ```

  Depending on whether you DO or do NOT have the PC VIDEO option, respectively, type:

  ```
  BATCH COPY5P {xxxx}   [RET]
  ```

  or

  ```
  BATCH COPY5 {xxx}   [RET]
  ```

  Use the same set of characters you chose in Step 2 in place of xxx or xxxx.

- For an 8" floppy boot drive:

  Insert CDOS 8-16 SYSTEM MASTER Disk 1 of 4 into the floppy drive.

  To log onto the floppy disk drive, type:

  ```
  I:   [RET]
  ```

  You need the batch files on the system drive.

  Type:

  ```
  PIP A:=I:COPY8*.BAT   [RET)
  ```

  Depending on whether you DO or do NOT have the PC VIDEO option, respectively, type:

  ```
  BATCH A:COPY8P {xxxx}   [RET]
  ```

  or

  ```
  BATCH A:COPY8 {xxx}   [RET]
  ```

  Use the same set of characters you chose in Step 2 in place of xxx or xxxx.

Step 4. Install the System File.

If you want the system to boot without asking which CCPM*.SYS file you want to use, you must create a file called CCPM.SYS.

Type:

```
PIP CCPM.SYS=CCPM{xxxx}.SYS[VROW]   [RET]
```

where xxxx is the designation you chose before as the CCPM*.SYS. For example, with a 40 Mbyte hard disk system with the PC VIDEO option you would type:

```
PIP CCPM.SYS=CCPM340P.SYS[VROW]   [RET]
```

Step 5. Install the Loader Onto the Hard Disk (SYSGEN).

To install the loader on the system disk, use the SYSGEN command as shown below, where *{filename}* is the appropriate loader file name chosen from Appendix A.

To access the user area containing the loader file, type:

```
15A:   [RET]
```

Type:

```
SYSGEN {filename} [RET]
```

For example, you have a 40 Mbyte hard disk and no PC VIDEO.

Type:

```
SYSGEN LDCCPM34.86   [RET]
```

When you are asked what your destination drive is, type:

```
A [RET]
```

To exit the SYSGEN utility, press [RET] again.

Step 6. Reboot the System.

Make sure there is no disk in the floppy disk drive and press the RESET button. The system should now boot directly off of the hard disk. All of the consoles and printers listed in the LPRS and TTYS files should become active.

If you have any problems, carefully review the steps above for any errors you might have made, and repeat those steps.

CHAPTER 4

Installing Setup Files

Concurrent DOS 8-16 uses three special files for system operation. TTYS and LPRS are required on all systems to provide terminal and printer setup information, and PASSWD is used to enable the security feature and hold encrypted passwords. Three additional files that control the sign-on banner, a monthly message, and a daily message may be included but are not required for system operation.

This chapter is a guide to setting up these files.

Interfacer User to Logical Device Map

Concurrent DOS 8-16 maps its consoles and printers to the Relative User Numbers on the Interfacer 3 and 4. The following table shows the default relationship between the relative user numbers from the interfacer board(s) and the logical device numbers as used in the backpanel labelling and by the TTYS and LPRS files. If you add consoles, be sure to change the serial device characteristics of the XIOS.CON with CDOSINST.CMD, as described in Chapter 8.

Relative User Number	Logical Device Number
0	Console 5
1	Console 4
2	Console 3
3	Console 2
4	Printer 0
5	Printer 1
6	Console 1
7	Aux Port 0 (Modem Port)
8	Printer 2
9	Console 6
A (10)	Console 7
B (11)	Console 8
C (12)	Console 9
D (13)	Console 10
E (14)	Console 11
F (15)	Console 12

NOTE: Physical Console 0 (the main system console) is mapped to the System Support 1 serial port in non-PC VIDEO systems.

Terminal Setup File (TTYS)

The TTYS file establishes information on each terminal used in the system, and establishes whether the system comes up in single user mode or directly in multi-user mode. Information for this file may be entered with any text editor program in non-document mode. Call up the TTYS file with a text editor and make the appropriate changes to it.

The TTYS file presently reads:

```
MULTI
HISTORY
0:9:1:82N:console: System Support 1 (Master Console #1)
1:9:1:82N:tty1: Interfacer 3 port 6 (Console #2)
2:9:1:82N:tty2: Interfacer 3 port 3 (Console #3)
3:9:1:82N:tty3: Interfacer 3 port 2 (Console #4)
4:9:1:82N:tty4: Interfacer 3 port 1 (Console #5)
5:9:1:82N:tty5: Interfacer 3 port 0 (console #6)
```

The first two lines apply to all terminals:

- *MULTI* sets up the computer as a multi-user system. The system comes up directly in multi-user mode with all of the consoles active. MULTI should be the first line of the file. If multi-user operation is not required, the word MULTI should be replaced with SINGLE.

- The term *HISTORY* activates the HISTORY.DAT file on the system drive. The HISTORY.DAT file contains a listing of all user logon and logout times in the following dBASE^{tm} format:

  ```
  "Name", "Console #", "Date Time ON", "Date Time OFF"
  ```

  The list builds from top to bottom giving an account of the dates and times users log on and off of the system. For history reporting, PASSWORD logon must be in effect.

The remainder of the TTYS file is used by the system to configure the individual terminals.

The format for the first terminal entry in the TTYS file is:

```
0:9:1:82N:console: System Support 1 (Master Console #1)
```

where:

0 = Device Number
9 = Baud Rate
1 = Handshaking
8 = Number of Data Bits
2 = Number of Stop Bits
N = Parity
console = TTY Number
System Support 1 = Description

Information is entered between the colons.

Device Number

The device number corresponds to the connection on the computer back panel. The system console is 0 and the remaining terminals are 1, 2, and so on. For systems without SIO labeling, refer to the Interfacer User to Logical Device Map section above. This is a decimal number from 0 - 13.

Baud Rate

This variable is set for the baud rate of the terminal according to the following chart. The default value, 9, corresponds to 19,200 baud.

0 = 9600
1 = 110
2 = 300
3 = 600
4 = 1200
5 = 1800
6 = 2400
7 = 4800
8 = 9600
9 = 19200

Handshaking

Handshaking is determined by a hexadecimal value created from two variables: handshake type, and status line ON or OFF. The default value, 1, is for a terminal with no status line and DTR handshaking.

Hardware handshaking is almost always required by terminals running at 19,200 baud. We recommend that you use handshaking at all baud rates. Check the specifications for the terminal. Handshaking is not required by the system console when using the PC VIDEO board.

Enter the number corresponding to the type of handshaking needed from the following table:

0	No Status Line, No handshaking
1	No Status Line, DTR handshaking
2	No Status Line, X-ON/X-OFF handshaking
3	No Status Line, DTR and X-ON/X-OFF handshaking
4-7	Do Not Use
8	Status Line, No handshaking
9	Status Line, DTR handshaking
10	Status Line, X-ON/X-OFF handshaking
11	Status Line, DTR and X-ON/X-OFF handshaking
12-15	Do Not Use

Data Bits

The value of this variable can be 8 or 7, for 8 or 7 data bits in the serial data word.

Stop Bits

The value of this variable can be 2 or 1.

Parity

This variable can have the following values:

N = No parity
E = Even parity
O = Odd parity

TTY Number and Description

Information on terminal type and location is entered as a means of reference for the system operator and is optional. For example, it may be helpful to know that Terminal 3 is a Teletype Model 43 that runs at 1200 baud; requires hardware handshaking; uses 8 data bits, 2 stop bits, and no parity; and is located in the Accounting Office. In this case, the TTYS entry for this terminal would look like:

```
3:4:1:82N:Teletype,43:Accounting Office
```

Normally, however, the TTYS file looks like the first example, where Interfacer 3 is the board in the computer that addresses this terminal, and the port number is the relative user number on that particular board of the terminal.

Editing the TTYS - Sample Change

To turn on the Status Line feature for the system console, we would edit the original line that looks like this:

```
0:9:1:82N:console: System Support 1 (Master Console #1)
```

So that it reads like this:

```
0:9:9:82N:console: System Support 1(Master Console #1)
```

NOTE: Remember to use the **non-document** mode of your text editing program.

Printer Setup File (LPRS)

An entry for each printer is made in the LPRS file. Again, this file may be entered and edited with any text editing program in non-document mode. The format for printer configuration is the same as for terminal configuration.

The LPRS file presently reads:

```
0:8:1:82N:LPR0,0:Interfacer 3 port 4
1:8:1:82N:LPR1,1:Interfacer 3 port 5
2:8:0:82N:LPR2,2:Interfacer 3 port 8
```

The default baud rate is 9600, and the other default parameters are the same as for terminals.

In the third line of the unedited LPRS file, the handshaking is set to 0. This is the proper setting for a parallel printer. The baud rate and parity entries are ignored with parallel printers.

NOTE: For a parallel printer you must have the Interfacer 4 option.

For example, the LPRS file might read:

```
0:8:0:82N:LPR0,0:Parallel Diablo in Room 5
1:8:1:82N:LPR1,1:Microline 80A in Room 10
```

In this example, printer 0 is a Parallel Diablo (note that it has no handshaking) located in Room 5. Printer 1 is a Microline 80A that runs at 9600 baud with DTR, and is located in Room 10.

Password File (PASSWD) and Password Setup File (PASS.CMD)

User passwords are set with PASS.CMD. Running this program creates or updates the PASSWD file on the disk. The use of this program is extensively documented in the help file.

For instructions on how to use this program, type:

```
HELP PASS  [RET]
```

In addition to the examples in the help file, it is strongly suggested that the person who sets up or who will be managing the system have password access with no restrictions. This person can then modify the menu, change passwords when there are personnel changes, and, in general, access the operating system.

There is also password protection available for files and drives using SET.CMD. Refer to HELP for more information on using SET for file protection. One way to keep the password file protected is to password-protect PASS.CMD. If you password-protect PASS.CMD, though, be SURE to have your password written down someplace where it can be found if needed.

Another way to protect the password file is to take PASS.CMD off of the hard disk and to use it only from a floppy disk that is kept in a safe place away from the computer.

After the password file has been created, you must reset the system to enable password logon. If there is an AUTO.BAT file, the logon prompt appears after the AUTO.BAT program has been completed. For more on automatic boot and logon programs, see Chapter 5, Setting Up Batch Files for Power-on and Logon.

NOTE: If a user is logged directly into a command, such as Menu+ or NewWord, the user cannot exit from that command to the system prompt. Upon exiting a command from a password logon, the user is logged out of the operating system and the console returns to the NAME: prompt.

To provide for automatically logging into a command and still allowing the user to exit from that command to the operating system, include commands in a {*name*}.BAT file as described in Chapter 5.

The Sign-On Banner File (BANNER)

The BANNER file is a text file that is displayed on the terminals at system power-up and at logout. You may create or alter this file using your text editor. The BANNER file on the system master disks is a good example of what can be done with this file. If you do not wish to have a system banner, simply erase the BANNER file.

The Monthly Message File (MONTHLY)

The MONTHLY file is a text file that is displayed on the master system terminal once a month. It introduces a delay of about 15 seconds before it allows the system to finish booting. You may create or alter this file using your text editor. The MONTHLY file on the master disks is a good example of what can be done with this file. We strongly recommend that you have a monthly message to remind the user to clean the system fan filters.

The Message of the Day File (MOTD)

The MOTD file is a text file that is displayed on each terminal at logon. You may create or alter this file using your text editor.

If you do not wish to have a daily message, simply erase the MOTD file.

CHAPTER 5

Setting Up Batch Files for Power-On and Logon

BATCH files are text files that contain a sequence of programs to be executed as a "batch." The file called {*program*}.BAT is created with a word processor or editor in non-document mode. The commands are entered just as they would be typed at the system prompt. Any batch file can call other BATCH files. Even 8-bit programs can be run from a BATCH file.

There are three types of BATCH files used for power-on and logon: AUTO.BAT, CONSOLE{*x*}.BAT, and {*name*}.BAT files.

AUTO.BAT

AUTO.BAT is a one time batch file invoked at power-on. The only display from this file is at the system console. If you have password logon, the password logon occurs only after completing or exiting from AUTO.BAT. If there are CONSOLE{*x*}.BAT files, they execute after AUTO.BAT.

When you use the menu program to set up the SPUZ, SP186, or CPU 8085/86 switches as described in Chapter 6, an AUTO.BAT file is created to to run the switch initialization program(s) that set up the switch queues.

You may use TYPE to type out the command that is in the AUTO.BAT file. Use a text editor to add any additional routines you would like executed at logon, such as turning on the network.

A typical AUTO.BAT file for a system with an SPUZ board is shown below. This file runs the SPZ program for the SPUZ board, starts the print manager, and starts Access Manager for programs that require it.

```
SPZ
PRINTMGR START 1
AM86
```

CONSOLE{x}.BAT

Console batch files operate only if there is no password logon. Use them to customize the power-on routines for the different consoles attached to the computer.

CONSOLE{*x*}.BAT operates on a virtual console or window by window basis. If the Master System Console is set up as 2 virtual consoles, it executes CONSOLE0.BAT and CONSOLE1.BAT. The typical CONSOLE{*x*}.BAT file would be used to bring up the menu on an individual console, or to start-up the network on that console.

Acceptable values for x range from 0 through 9. For Consoles 10 through 56, the file should be named CONSOL{*xx*}.BAT.

Six CONSOLE{*x*}.BAT files are supplied with the system master disks. You can write or edit any of these files with a text editor in **non-document** mode.

{name}.BAT

If you want automatic execution of a BATCH file following password logon, create {*name*}.BAT files. If the user is logged onto a specific drive and user area, this file must be located on that drive and user area.

For example, a user named LOUISE is logged onto 10B: by her password. She usually uses NewWord, so she wants to automatically boot up into NewWord. She also wants her terminal to be logged onto the network so that she can print on the letter quality printer attached to node 30.

LOUISE.BAT would look like the following:

```
neton
logon 30::
net lst1:=lst0:30::
printer 1
nw
```

{program}.BAT

You may execute BATCH programs that are named {*program*}.BAT at any time by typing {*program*}. For example, to execute the BATCH file MAKESYS.BAT (which reassembles the operating system), type:

```
MAKESYS [RET].
```

Note: If the file {*program*}.CMD (or .EXE or .COM) exists, that program will be run instead of the BATCH program. You should rename the BATCH program.

CHAPTER 6

Setting Up the Switch Programs

Setting Up the Switch Programs

There are three possible ways to run 8-bit programs on a CompuPro system. These are using a CPU 8085/88, using a SPUZ slave processor, or using the 8-bit emulator.

In addition, for very efficient 16-bit multi-processing, an SP186 board can relieve the host CPU of most CP/M ".CMD" user programs. This allows more efficient processing of user programs as well as allowing the host CPU to execute the operating system functions more quickly and efficiently.

For the system to run 8-bit software and for 16-bit software to run on the SP186, you must first install the appropriate SWITCH program(s):

- SW!8085.CMD sets up the 8085 on the CPU 8085/88 to run 8-bit programs. This program can only be used in systems with the CPU 8085/88.

- SW!SPUZ.CMD sets up the SPUZ board(s) for 8-bit processing. This program can only be used in systems with SPUZ boards. In addition, the SPUZ flag must be set to TRUE with CDOSINST.CMD.

- SW!EM.CMD sets up the 16-bit microprocessor to emulate an 8-bit microprocessor for 8-bit software. This is the least efficient way to run 8-bit programs, due to the great overhead of the emulator, unless, of course, the SP186 board is used to run SW!EM.CMD.

- SW186.CMD sets up the SP186 board(s) to run 16-bit .CMD programs. This program can only be used in systems with SP186 boards. In addition, the SP186 flag must be set to TRUE with CDOSINST.CMD.

To install the switch programs, you use the Menu+ switch installation menu. The switch programs must all be on Drive A, user 0.

Type:

```
MENU+ SWINST SWINST  [RET]
```

A menu appears on the screen with numbers corresponding to all the legitimate combinations of switch programs.

Press the key corresponding to the combination of switch programs appropriate for the system. Menu+ will execute the following operations:

- Rename the 8-bit switch chosen (if any) to SW!.CMD.

- Set SW!.CMD to System and Read Only status with attributes Fl = ON and F3 = ON.

- For all the switch programs except for the 8-bit emulator, create an AUTO.BAT file to run the switch initialization program(s) that set up the switch queues.

  NOTE: The AUTO.BAT program does not execute until the system is RESET.

Setting Up the 8-Bit Software

The batch program 8BIT.BAT sets up all 8-bit programs to be recognized as 8-bit by the operating system.

For each 8-bit program, type:

```
8BIT {filename}   [RET]
```

You may use the wildcard "*" to set all .COM files as 8-bit. You can also use the "*" with other characters to specify groups of files just the same way you would with PIP. You must specify the drive unless you are running 8BIT from that drive.

For example, you have versions of 8-bit NewWord for several terminals on drive B.

Type:

```
8BIT B:NW*  [RET]
```

Be careful not to set PC programs to 8-bit. They also use the .COM file extension. If you inadvertently do set a file to 8-bit, set it back to 16-bit with the following command.

Type:

```
SET {file}.COM[F1=OFF F2=OFF F3=OFF F4=OFF]  [RET]
```

Setting Up the 16-Bit Software

The batch program SP.BAT sets up .CMD programs to run automatically on the SP186 board with the command header setup program CHSET.CMD.

SP.BAT does not accept wildcards. Otherwise, use the same rules for SP as described for the program 8BIT in the section on setting up the 8-bit software.

SP.BAT performs the following operations:

- Set the file to Read/Write status.
- Use CHSET.CMD to set SP186 ON.
- Set the file to Read Only status.

NOTE: CHSET is fully documented in the HELP program.

Any program called up by a batch file will run in system memory even if the SP flag=ON for that file. Therefore, a program (such as Menu+) when called up by a batch file (such as MENU.BAT or CONSOLE*x*.BAT) does not run on the SP186.

If Menu+ is invoked directly (type MENU+ [RET]) and has its SP flag=ON, Menu+ loads any .CMD files into the SP186, even if their SP flag=OFF.

When to Use the SP186

Although all .CMD programs can be set to run on the SP186 board, some programs are better candidates than others. In fact, a few can be downright dangerous, locking up the system and therefore stopping all processes. Most applications software runs fine on the SP186. CompuPro has found that the following applications programs will work with no problems:

- NewWord
- WordStar™
- Medical Manager™
- INCOME® and INMASS®
- DataFlex™
- SuperCalc®

All the files on the system master disks have been tested by CompuPro Software Assurance. The lists of which files do and do not work are on the following page.

Before setting up any other a file to run automatically on the SP186, we suggest that you test it without any valuable user processes running.

To run a program directly on the switch, type:

```
SW186 {filename}  [RET]
```

The following are a few rules of thumb for determining what programs not to run on the SP186.

- A program does not work if it has any built-in physical I/O.
- A program does not work if it needs direct access to the operating system's data area. For instance, SID86.CMD works for files but not for changing the operating system.
- Any DRI network utility program does not work. There is no problem running applications across the network on the SP186, however.
- PC DOS ".EXE" and ".COM" programs do not work.

Programs that DO work on the SP186:

PASS .CMD
SDIR .CMD
ERAQ .CMD
HELP .CMD
MENU+ .CMD
VF .CMD
CRCK16 .CMD
GENCCPM .CMD
COMPARE .CMD
DIR .CMD
SHOW .CMD
CARDFILE.CMD
NOW .CMD
LSTED .CMD
RASM86 .CMD
PIP .CMD
ERA .CMD
TYPE .CMD
XD .CMD
VIEW .CMD
TXTED .CMD
LINK86 .CMD

Programs that should NOT be run on the SP186 board:

SPL .CMD
CLOCK .CMD
MKDIR .CMD
FM .CMD
SYSTAT .CMD
SET .CMD
LOGON .CMD
NAMES .CMD
BACK .CMD
DISKCOPY .CMD
STOP .CMD
DSP .CMD
MAKEDOS .CMD
CHDIR .CMD
INITDIR .CMD
NETSTAT .CMD
FORMAT .CMD
NET .CMD
NAMESMOD.CMD
REST .CMD
WMENU .CMD
AMCALL .CMD
PRINTMGR .CMD
MFORM .CMD
RMDIR .CMD
SCOPY .CMD
FUNCTION .CMD
NETON .CMD
LOCAL .CMD
ST16 .CMD
STOP186 .CMD
NEWMEDIA .CMD
SETMEM .CMD

CHAPTER 7

Wrapping Up the Installation

Your operating system installation is almost complete. This chapter has various tasks that are required to finish the installation. If you need to modify the operating system, follow the instructions in Chapters 8 through 10 and then return to this chapter.

Renaming the System File

If you have not already renamed the system file to CCPM.SYS and you don't plan to modify it, this might be a good time to do it. Type:

```
REN CCPM.SYS=CCPM{xxxx}.SYS [RET]
```

Where xxxx is the current name of the file.

If you plan to modify the file, or you would like the system to BOOT with a different system every now and then, omit this step and leave the system files with extension names.

Setting the Clock

CLOCK.CMD is a program that allows you to view, set, or change the clock time or date.

For information on setting the clock, type:

```
HELP CLOCK [RET]
```

This gives you an overview of the CLOCK program functions. Run the CLOCK program by typing:

```
CLOCK [RET]
```

and following the instructions in the program.

Creating DOS-Style Media

Concurrent DOS 8-16 version 4.1E has the ability to create DOS media partitions on hard disk drives. This is particularly useful when using PC DOS programs that need to run on PC DOS media and have sub-directories.

Use MAKEDOS.CMD to change the format of Drives C: and/or D: of a 40 or 80 Mbyte hard drive for PC DOS compatibility.

Type:

```
MAKEDOS    [RET]
```

MAKEDOS prompts you for the drive you wish to alter the format on.

CAUTION: If you later decide you don't want PC DOS media, you have to clear the directory area out and reinstate CP/M format for the entire logical drive. The command to reformat a single drive is: FORMAT {*drive*}*, so if you no longer wanted the PC DOS directory structure on Drive D:, you would have to backup all files on that drive and type:

```
FORMAT D*    [RET]
```

NOTE: If you want to use MAKEDOS on drives other than C: and D:, it is necessary to customize DPBS.TBL and reassemble and link the XIOS.

Deleting Unnecessary Files

If disk space is at a premium, or for general housekeeping, you may want to delete all the files used only for system generation. If you intend to create a custom system, wait to do this step until after your custom system is created.

Files you should delete are:

- All files related to reassembly of the XIOS
- Extra system, loader, and XIOS files
- Other files created just for system installation

Use ERAQ.CMD for this procedure. The program prompts you to confirm each deletion and you have a chance to change your mind.

For example, to delete unused *.SYS files, type:

```
ERAQ *.SYS  [RET]
```

When you are prompted to confirm each deletion, type Y if you want the file deleted, or N if you want the file to remain.

Appendix C lists the files required for day-to-day operation of various software configurations. It also lists the programs required for specific functions. Use it as a guideline for files that should be left on the system disk.

The files on Drive 15A:, as copied with batch files or installed at the factory, are used only for operating system modification and may be deleted.

Setting Files to System and/or Read Only

It is often desirable to set files in the system to read only (RO) and/or to system (SYS) status. The batch copy program has already set all .CMD, .EXE, and M*.BAT files on the system master disks to system and read only status, but any files added during installation do not have these attributes.

A file set to read only status can be read by more than one user at a time, but you cannot use any program to make changes in the file.

To get a directory listing of a file set to system status, you must use the SDIR command. An executable command file set to system status on Drive 0A: can be run from any drive or user area.

The HELP command has a full explanation of the use of SET.

Setting File Password Protection

The SET command can also be used for password protection of files and directories. CompuPro does not necessarily recommend file password protection, and cannot be responsible for lost access to protected files. Remember, if you use password protection, the password must be recorded and available to the persons responsible for maintaining the system.

Turning on Time and Date Stamping

Turn on time and date stamping on each disk for which you want a record of the time and date that a file is accessed or changed. This record is displayed by the SDIR directory display command.

NOTE: More directory space is required when time and date stamping is turned on. Therefore time and date stamping reduces the number of files that you can have in that directory by 25%.

The utility INITDIR.CMD initializes a disk directory to allow date and time stamping on that disk. After initializing the directory, use SET.CMD to set the time stamp options. The HELP command has a full explanation of both INITDIR and SET.

CHAPTER 8

Modifying the Operating System with CDOSINST

Introduction

Most changes to Concurrent DOS 8-16 can be made with the CompuPro utility CDOSINST.CMD. CDOSINST.CMD is a menu-driven program that allows you to modify either the CCPM.SYS file or the XIOS.CON file. You choose the parameters to change by typing the number or letter that corresponds to the parameter. You select the new value by pressing **T** to toggle forward or **B** to back up to the last value.

To modify CCPM.SYS, you need only to modify the file with CDOSINST and then reboot the altered operating system. Modification of the XIOS.CON also requires generating a new system file, as described in Chapter 9.

The following parameters can be altered in either CCPM.SYS (CCPM*.SYS) or XIOS.CON (XIOS*.CON):

Parameter	Default
System console setup:	baud rate = 19.2K baud character length = 8 number of stop bits = 2 parity = none
Console type:	Vanilla: QVT 102-compatible
5.25" floppy drive step rate:	3 ms
8" floppy drive step rate:	4 ms
Hard disk caching:	512 Kbytes of MDrive/H if MDrive/H is present
Tape drive:	Drive L not set up as tape drive
SPUZ:	SPUZ memory allocation flag set FALSE
SP186:	FALSE
PC VIDEO	Color operation 16K of video RAM (PC VIDEO systems only)

The following parameters cannot be altered in CCPM.SYS and must be changed in XIOS.CON:

Parameter	Default
Number of physical consoles:	6
Number of virtual consoles:	1 for each standard console 4 for the PC VIDEO master console (screen switching implemented)
Floppy drive assignment:	Units 0-3 are I: - L: in order (or A: - D: floppy-only)
Number of LST devices (printers):	2
Number of auxiliary devices (usually modems):	1 (set for AMCALL)

This chapter outlines sample changes to XIOS.CON and CCPM.SYS. These are only simple examples, and we would encourage you to investigate the many different parameters that can be changed with CDOSINST.

Sample Modification of CCPM.SYS

A good example of a parameter to change in a .SYS file is to change from color to monochrome operation in a PC VIDEO file. NOTE: The PC VIDEO loader files will all handle either a color or a monochrome monitor and do not need to be modified.

It is always a good idea to have a backup copy of a file you are modifying. At the system prompt, type:

```
PIP CCPMSAV.SYS=CCPM.SYS[VROW]   [RET]
```

To set the file to read/write if you have not already done so, type:

```
SET CCPM.SYS[RW]   [RET]
```

You may now modify the file.

Type:

```
CDOSINST  [RET]
```

The main menu appears on the screen. It looks something like the following:

```
                MAIN MENU

(M)  System Console Setup
(F)  Floppy Disk Characteristics
(A)  Assign Floppy Drives
(D)  Serial Device Characteristics
(V)  PC Video Board Characteristics
(H)  Hard Disk Cache Values
(T)  Tape Drive Install
(P)  Terminal Definition Parameters
(C)  Console Types
(N)  Number of Virtual Consoles
(Z)  SPUZ and SP186 Flags
(S)  Save Updated Values without Exiting
(E)  Exit and Save Updated Values
(X)  Exit Without Saving Updated Values

PRESS OPTION:
```

To alter PC VIDEO parameters, type:

```
V  [RET]
```

You then see something like the following screen:

```
  THE SYS FILE 'ccpm.sys' IS SET UP AS FOLLOWS:

  PC Video Board characteristics

(1) PC Video Board flag is set to TRUE
(2) Monochrome Monitor = FALSE
(3) Color Monitor = TRUE
(4) Monochrome PC Board with 32K RAM = FALSE
(5) Color PC Board with 32K RAM = FALSE

  MODIFY WHICH PARAMETER? (or CR to exit)
```

Press 2 to modify the Monochrome Monitor flag.

The following message appears at the bottom of the screen:

```
Press 'T' or 'B' to toggle value forward or backward,
then CR to set.
FALSE
```

Press T once so the last line shows:

```
TRUE
```

Then press [RET]. The screen is redrawn to look like the following:

```
  THE SYS FILE 'ccpm.sys' IS SET UP AS FOLLOWS:

  PC Video Board characteristics

(1) PC Video Board flag is set to TRUE
(2) Monochrome Monitor = FALSE
(3) Color Monitor = TRUE
(4) Monochrome PC Board with 32K RAM = FALSE
(5) Color PC Board with 32K RAM = FALSE

  MODIFY WHICH PARAMETER? (or CR to exit)
```

Now you may select option (3) to make the Color flag FALSE, or you may elect to have both a Color and a Monochrome monitor in the system, in which case you are done.

When all changes have been made, press E while in the main menu to save the new CCPM.SYS file and exit to the system prompt. The next time you RESET the system, the new altered system file set for a Monochrome monitor will come up.

Sample Modification of XIOS.CON

The procedure to alter parameters in an XIOS file with CDOSINST.CMD is essentially the same as for system modification. There are, however, a few more steps involved before you have a usable new system file.

The entire modification process for altering XIOS.CON consists of 3 steps. You must:

1. Modify XIOS.CON as required using CDOSINST.CMD.
2. Generate a new system file with GENCCPM.
3. Boot the new operating system.

In this example, you are modifying the XIOS for a Televideo terminal with four virtual consoles as the master console. Although the terminal type can be changed in either the XIOS or the system file, the number of virtual consoles can be changed only in the XIOS, so it makes sense to make both changes to the XIOS.

NOTE: If you set a "Televideo-compatible" terminal as TVI925 and the status line does not work correctly, you must also change the string to display the 25th line in the Terminal Definition Parameters to add a return (0Dh) at the beginning of the string.

The files for XIOS modification should be on drive 15A: of a hard disk system. To access this drive, type:

```
15A:   [RET]
```

Since the master disks do not contain a file called XIOS.CON, you must create this file from the XIOS{*xxxx*}.CON file that is the closest match to what you want when finally configured. Refer to Appendix A to choose the correct one.

Type:

```
PIP XIOS.CON=XIOS{xxxx}.CON[VROW]   [RET]
```

Now that you have an XIOS.CON and XIOS*xxxx* as a backup file, type:

```
CDOSINST XIOS.CON   [RET]
```

The main menu appears on the screen. It looks something like the following:

```
                    MAIN MENU

(M)  System Console Setup
(F)  Floppy Disk Characteristics
(A)  Assign Floppy Drives
(D)  Serial Device Characteristics
(V)  PC Video Board Characteristics
(H)  Hard Disk Cache Values
(T)  Tape Drive Install
(P)  Terminal Definition Parameters
(C)  Console Types
(N)  Number of Virtual Consoles
(Z)  SPUZ and SP186 Flags
(S)  Save Updated Values without Exiting
(E)  Exit and Save Updated Values
(X)  Exit Without Saving Updated Values

PRESS OPTION:
```

To change the console to Televideo, type:

```
N   [RET]
```

You then see something like the following screen:

```
THE CON FILE 'xios.con' IS SET UP AS FOLLOWS:

The number of virtual consoles on each physical console is:

                   CONSOLE 1:  1,
                   CONSOLE 2:  1,
                   CONSOLE 3:  1,
                   CONSOLE 4:  1,
                   CONSOLE 5:  1,
                   CONSOLE 6:  1,

MODIFY WHICH PARAMETER? (or CR to exit)
```

Press 1 to modify Console #1. The following message appears at the bottom of the screen:

```
 Press 'T' or 'B' to toggle value forward or backward,
 then CR to set.
 CONSOLE#1
 1
```

Press **T** three times until the last line shows:

```
 4
```

Then press **[RET]**. The screen is redrawn to show:

```
THE CON FILE 'xios.con" IS SET UP AS FOLLOWS:

The number of virtual consoles on each physical console is:

                   CONSOLE 1:  4,
                   CONSOLE 2:  1,
                   CONSOLE 3:  1,
                   CONSOLE 4:  1,
                   CONSOLE 5:  1,
                   CONSOLE 6:  1,

MODIFY WHICH PARAMETER? (or CR to exit)
```

If you wish any other console to have more than one virtual console, change it at this time. When you have completed alterations, press **[RET]** to return to the main menu.

Other parameters may be altered in the same way by selecting from the main menu the item to changed, and then pressing the character associated with it.

To alter the type of terminal a console is, type:

```
C   [RET]
```

You then see something like the following screen:

```
THE CON FILE 'xios.con' IS SET UP AS FOLLOWS:

The physical consoles are defined as:
        Console 1:  standard terminal,   VANILLA
        Console 2:  standard terminal,   VANILLA
        Console 3:  standard terminal,   VANILLA
        Console 4:  standard terminal,   VANILLA
        Console 5:  standard terminal,   VANILLA
        Console 6:  standard terminal,   VANILLA

MODIFY WHICH PARAMETER? (or CR to exit)
```

Press 1 to modify Console #1. The following message appears at the bottom of the screen:

```
Press 'T' or 'B' to toggle value forward or backward,
then CR to set.
CONSOLE#1
standard terminal,   VANILLA
```

Press T two times until the last line shows:

```
custom terminal,     TVI925
```

Then press **[RET]**. The screen is redrawn to show:

```
THE CON FILE 'ccpm.sys' IS SET UP AS FOLLOWS:

The physical consoles are defined as:
        Console 1:  custom terminal,     TVI925
        Console 2:  standard terminal,   VANILLA
        Console 3:  standard terminal,   VANILLA
        Console 4:  standard terminal,   VANILLA
        Console 5:  standard terminal,   VANILLA
        Console 6:  standard terminal,   VANILLA

MODIFY WHICH PARAMETER? (or CR to exit)
```

When all changes have been made, press S while in the main menu to save the new XIOS.CON file and exit to the system prompt.

Once you have generated a new XIOS.CON file, you need to regenerate the operating system with GENCCPM.CMD. This process is discussed in Chapter 9.

Changes That Require Other Programs

There are some changes which cannot be done with CDOSINST:

- If the system console baud rate does not conform to the default values, you need to modify the loader as described in Appendix B.
- For changes such as setting up additional drives for DOS partitioning or adding an unsupported hard disk, you must edit and reassemble the XIOS. Instructions on reassembling the XIOS can be found in Chapter 10.

CHAPTER 9

Regenerating the Operating System with GENCCPM

Generate a New Operating System

The program GENCCPM.CMD allows the user to regenerate a version of CCPM.SYS from the component modules. It also allows you to alter many of the values built into the system for special configurations.

To run GENCCPM, the following files are required. They should be on Disk and User Area 15A: of a hard disk system.

From Digital Research:

BDOS	.CON	MEM	.CON	CIO	.CON
RTM	.CON	SUP	.CON	SYSDAT	.CON
GENCCPM	.CMD	PIN	.RSP		

From CompuPro:

XIOS	.CON	SHELLP	.RSP	STATLINE	.RSP
CPROXIOS	.IN or	CPROFLPY.IN			

Generate the new operating system using GENCCPM.CMD and either the input file CPROXIOS.IN for a hard disk system or CPROFLPY.IN for a floppy-based system. For this discussion, we assume a hard disk system.

CPRO{*xxxx*}.IN incorporates all standard CompuPro defaults. For other parameters, consult the *Concurrent CP/M Operating System Programmer's Reference Guide*. You may modify CPRO{*xxxx*}.IN with a text editor.

NOTE: GENCCPM.CMD uses some special terminal attributes. If you are not using a Televideo-type terminal, see Appendix B for how to modify GENCCPM to patch the correct CLEAR SCREEN and HOME control codes for the terminal.

Standard System Generation

Type:

```
GENCCPM <CPROXIOS.IN [RET]
```

The screen rapidly scrolls several pages of output and then prompts you for any changes required. At this time, you may either type GENSYS to complete the process, or type any of the listed commands to alter specific parameters.

Altering Parameters with GENCCPM

You often need to alter some parameters while in GENCCPM for proper system operation. The typical items that need to be altered are the following:

- For systems that open and lock many files at one time, the system defaults for the number of files open and locked must be increased. This is especially true with programs like Medical Manager^tm and DataFlex^tm.

  While at the **changes?** prompt in GENCCPM, change the system parameters by typing:

  ```
  SYSPARAMS [RET]
  ```

  The SYSTEM Parameter table appears, and you may change the open file parameters by typing:

  ```
  OPENMAX=(xx) [RET]

  LOCKMAX=(xx) [RET]

  NOPENFILES=(xxx) [RET]
  ```

  Where xx may be up to FF hex (255 decimal) and xxx should be equal to OPENMAX plus LOCKMAX.

- The screen is repainted each time you hit return and the altered values appear.

- The next item typically altered is the DISK Buffering Table. It allows you to change the quantity of data and directory buffers, and whether or not directory hashing is turned on.

  While at the **changes?** prompt in GENCCPM, change the DISK Buffering parameters by typing:

  ```
  DISKBUFFERS [RET]
  ```

The DISK Buffer Parameter table appears, and you may change the buffer parameters by typing:

```
A: [RET]
```

and entering the number of data and directory buffers required for that drive. Hashing is recommended on all hard disk drives on the system since this speeds directory searches, and it is required on any drive that uses or is PC DOS media.

- Hashing must be ON on the K: and L: drives to read PC DOS disks. Hashing should be OFF on the 8" drives I: and J: since they cannot read DOS disks.
- CompuPro does not recommend increasing the number of data and directory buffers beyond the defaults. They may be reduced, particularly in systems where part of the MDrive/H is used as cache buffer.

Other parameters may also be changed at the changes? prompt if required, but you must be very careful. You cannot alter the MEMORY partitions, however, as they are overwritten by the XIOS.

When you have made all your changes, type GENSYS at the changes? prompt to complete the process. GENCCPM creates a new CCPM.SYS file which you will eventually want to use as the system file.

However, you may first want to give CCPM.SYS a temporary name so that you can test it and make sure that it works. If it doesn't, you can always go back to your previous operating system, now called CCPMSAV.SYS. You can make a copy of the CCPM.SYS with the new name CCPMNEW.SYS and put it on Drive A: User 0 in the same operation by using the following PIP command:

```
PIP A:CCPMNEW.SYS[GO]=CCPM.SYS[VROW]   [RET]
```

If you have a file on 0A: named CCPM.SYS, you should rename that as well.

Booting the New Operating System

Now, press **RESET**.

You get the following message:

```
Can't open CCPM.SYS.
What CCPM*.SYS Do You Want To Read?
```

Type:

```
NEW   [RET]
```

The modified operating system will now boot up. If you have problems with this file, RESET the system again, and BOOT your old system file by typing SAV when prompted.

NOTE: If you change the cache size with CDOSINST, you must either power down the system before you BOOT the new operating system or run MFORM.CMD after you press [RESET]. This resets the MDrive/H. The form of the MFORM command is as follows:

```
MFORM M   [RET]
```

Hazards with GENCCPM

We have noticed that GENCCPM has modes of failure that may or may not give an error message.

- The system data area in Concurrent DOS is limited to one 64K segment. This segment must hold the XIOS, queue buffers, process descriptors, etc. without overflow or overlap. If the data area is too big, you get the error message:

  ERROR - System Data Area has grown too large
  Try reducing the size of some of your tables

  When this message occurs, you must reduce your buffer values in the SYSPARAMS portions of GENCCPM. If you are not using a lot of QUEUEs, you may want to reduce the QUEUE buffer size, and set NOPENFILES to the minimum required.

- If you experience erratic or "confused" system operation, you may be in the realm of regeneration errors without an error message. We have seen systems regenerated that the system data area error message has not occurred, yet the system did not work properly. We suspect that the buffers were overlapped internally, since reducing their sizes eliminated the problem.

  A good rule is to keep all buffers reduced to a minimum.

CHAPTER 10

Reassembling and Linking the XIOS

You can make almost all changes to the XIOS.CON using CDOSINST.CMD, as described in Chapter 8.

If you want to add Drive E: to a 40 Mbyte system or change the system drive of a floppy-only system, you must edit the file GLOBAL.EQU to change the equates for those parameters. Adding a drive to the list of drives that can become DOS media requires that a PC DOS DPB be installed in the file DPBS.TBL.

NOTE: Never edit a source file with a word processor in document mode! This introduces unwanted characters into the file and causes assembly errors.

Changing equates requires reassembling the XIOS with the DR Assembler + Tools 86, an assembler package. The CompuPro batch file uses this software package to reassemble and link the XIOS and then creates a new system file with GENCCPM.CMD.

Any further changes in the operating system files require modification of source code. This is available only under non-disclosure agreement and at extra cost. Note that CompuPro does not offer technical support for modified operating systems.

Generating a New System with MAKESYS.BAT

The MAKESYS.BAT file looks like the following:

```
RASM86 HEADENTR $PZSZ
LINK86 CPROXIOS[i
PIP XIOS.CON=CPROXIOS.CMD[OVRW
CDOSINST XIOS.CON
GENCCPM <CPROXIOS.IN
```

Before running this BATCH file, you must create the files VSCPC.OBJ and HDISK.OBJ.

Type:

```
        PIP VSCPC.OBJ=VSC(xxx).OBJ[V]   [RET]
```

where (*xxx*) is YPC if you want PC VIDEO, and NPC if you don't want PC VIDEO.

Then type:

```
PIP HDISK.OBJ=HDISK(xxx).OBJ[V]   [RET]
```

Where xxx is:
3 for DISK 3 based systems,
2 for DISK 2 based systems, or
NHD for floppy only systems.

Now, you may run the MAKESYS.BAT program by typing:

```
MAKESYS   [RET]
```

The steps involved in MAKESYS are described below.

1. MAKESYS reassembles HEADENTR.A86 using GLOBAL.EQU with RASM-86$^{\text{tm}}$. This creates a file called HEADENTR.OBJ.

   HEADENTR.A86 includes:

   SYSTEM .LIB
   SYSDAT .LIB
   GLOBAL .EQU
   DPBS .TBL
   TERMDEF .EQU

2. MAKESYS links .OBJ Modules to form XIOS.CON with LINK-86$^{\text{tm}}$ and CPROXIOS.INP.

   You have created the following files already:

   HEADENTR.OBJ
   HDISK .OBJ
   VSCPC .OBJ

   Other object files you need on the drive are:

   CONIO .OBJ
   DENTRY .OBJ
   FD .OBJ
   FUNC56 .OBJ
   I3INT .OBJ
   INITENT .OBJ
   INTVEC .OBJ
   LIST .OBJ
   MDISK .OBJ
   NP8087 .OBJ
   PCMODE .OBJ
   PIC .OBJ
   RESKEW .OBJ
   SERDATA .OBJ
   SERIN .OBJ
   SEROUT .OBJ
   SERVAR .OBJ
   SP186 .OBJ
   SPIO .OBJ
   SSINT .OBJ
   STATLIN .OBJ
   SWITCH .OBJ
   TICK .OBJ
   VCCB .OBJ
   VSCREEN .OBJ

   LINK-86 links these .OBJ files together using the input file CPROXIOS.INP to create the file CPROXIOS.CMD.

NOTE: LINK86.CMD versions 1.2 and earlier give a list of undefined symbols starting with "M:_". These have to do with 8087 instructions and can be ignored.

3. This file is PIPed to create XIOS.CON.

4. MAKESYS calls CDOSINST to alter XIOS.CON. After the XIOS is created, you may wish to alter its characteristics with CDOSINST as described in Chapter 8. If you have no changes to make, or when you are finished, save the file and exit CDOSINST.

5. MAKESYS generates a new CCPM.SYS file using GENCCPM as described in Chapter 9.

   CON files needed are:

   BDOS .CON
   CIO .CON
   XIOS .CON
   MEM .CON
   RTM .CON
   SUP .CON
   SYSDAT .CON

   RSP files needed are:

   PIN .RSP
   SHELLP .RSP
   STATLINE .RSP

   Other files needed:

   GENCCPM .CMD
   CPROXIOS .IN or CPROFLPY.IN

At this point, you may alter parameters if desired, then complete the process with GENSYS.

You have now reassembled the XIOS and created a new CCPM.SYS file. Follow the instructions in **Booting the New Operating System** in Chapter 9.

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CHAPTER 11

Backing Up and Documenting the Software Installation

You can save considerable time and effort later on if you backup the files that have been changed in system installation, and if you document your work. Be sure to follow the procedures outlined in this chapter when you complete your installation.

Creating a Backup Master Disk

A backup master disk is a bootable floppy disk that contains all of the operating system files which were changed during installation.

Create a floppy boot disk as described in Chapters 1 and 2.

PIP the following files onto the backup disk:

- CCPM.SYS
- TTYS
- LPRS
- PASSWD
- XIOS.CON
- MOTD
- Loaders as found in Appendix A

Label this disk "BACKUP MASTER."

Backing Up the Applications Software

If you have made modifications to the applications software as part of installation, you might want to backup those modifications. Otherwise, you should simply copy the master disks. In any case, be sure to label them clearly.

Documenting Your Modifications

It is a good idea to document on paper the system configuration that this installation was made for, as well as other modifications you have made. You might document:

- Hard drive size
- Terminal configuraton
- Printer configuration
- Batch or submit files written
- Network mapping (if applicable)

If there is password protection on any files, it is absolutely mandatory that you document the file(s) and the password(s). This record must be accessible to you if you need it, and also to some other responsible person if you are unavailable.

Storing the Backup Disks and Documentation

It is good practice to store backup copies of all valuable files at a building away from the one the computer is in, or in a fire-proof vault or file cabinet. This is true for the backup copy of the operating system as well.

CHAPTER 12

Utility and Applications Software Installation

Hints for Installing and Using Software on CompuPro Systems

If the same software is to be accessed by users from more than one drive and user area, it should be located on 0A and set to [SYSTEM] using the following command syntax:

```
0A>  SET {filename}[SYS RO]  [RET]
```

If different users use slightly different installations of a software package, you must either give the different versions different names on the system drive and set them as described above for system use, or locate them on the appropriate user area.

Installing File Manager

File Manager (FM), which is included on the system master disks, is a user menu program that isolates the user from everyday system commands.

FM consists of two required files and one or more optional files. FM operates without any installation in PC VIDEO equipped systems. It also runs on a terminal from the following list (or on a terminal that emulates one of the terminals from this list), if the appropriate data file has been set up for that terminal.

- Televideo 925
- Televideo 950
- Qume 102
- Zenith^{tm} Z19

To run FM on either PC VIDEO or a standard terminal, you must have the following files:

- FM .CMD
- FM .CFG

To run it on a standard terminal, you need a file called:

- TERM{*x*}.DAT

When it is used, x is a console number. This file is not present on the disks, but is created as shown by the following examples.

The standard terminals supported are shown below with the corresponding .DAT file:

<u>Terminal Type</u>	<u>Data File</u>
Televideo 925	TVI925.DAT
Televideo 950	TVI950.DAT
Qume 102	QVT102.DAT
Zenith Z19	Z29.DAT

If all of the terminals are the same type, you can create a single TERM.DAT terminal data file.

For example, for all Televideo 925 terminals.

Type:

```
PIP TERM.DAT=TVI925.DAT[VROW]   [RET]
```

If the system has more than one type of terminal, you must set up a data (.DAT) file for each terminal. This is done by creating a TERM{*x*}.DAT file where x is a number corresponding to the terminal number, starting with number 1.

For example, a Qume 102 terminal is terminal number 3.

Type:

```
PIP TERM3.DAT=QVT102.DAT[VROW]   [RET]
```

You must create a TERM{*x*}.DAT file for each terminal that is required to run FM.

NOTE: The program FM was primarily designed to run on a PC-style microcomputer. It has several options that do not run on a CompuPro system. <u>This program is provided for your experimentation only.</u>

Installing Menu+

If you want to add another option to the menu, or to create individual menus for different users or terminals to be called up by CONSOLE{*x*}.BAT or {*name*}.BAT files, you can find the instructions in the MENU+ manual.

Installing NewWord

NOTE: NewWord is included with CompuPro systems only, not with the operating system alone.

Use the PIP command to copy NW*.* from the NewWord disk onto the system drive.

The 16-bit version of NewWord (version 2.17 and later) is located on user area 0 of the distribution disk; the 8-bit version is on user area 1.

If you want only one copy of NewWord on the system, proceed to the Nuts & Bolts section of your NewWord manual. Don't forget to set NW*.* to [SYS RO].

To have different copies of NewWord on different user areas, use the PIP command to copy the NewWord files to each user area, then complete the installation in each user area according the the NewWord manual.

If you want multiple copies of NewWord for different terminals, printers, or other defaults on the system drive, give unique names to each installation.

For example: You need a copy of NewWord for a Televideo 925 terminal. NWINSTAL.CMD prompts you with:

```
File to hold installed Newword?
```

Type:

```
NWTV   [RET]
```

To use this copy of NewWord, type:

```
NWTV   [RET]
```

You can complete the installation for each copy using the instructions in the Nuts & Bolts section of the NewWord manual. Each installation creates overlay files. Be sure to set your NewWord files to [SYS RO].

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CHAPTER 13

Installing the Network

This chapter describes how to install the network software into the system. The network software, DR Net by Digital Research, allows up to 254 computer systems or "nodes" to be connected together. DR Net allows a computer to share disk drive, printer, and queue resources with other computers on the network. Also, other manufacturers' computers running Concurrent DOS and DR Net can be tied into the network if they have an ARCNET hardware interface and an appropriate software interface. Lastly, an IBM PC, XT, or AT with a CompuPro NET PC^{tm} card installed and running PC DOS with CPLINK^{tm} Requestor software can also become a part of the network.

The instructions for installing the network cabling are given in the hardware installation guide for the computer. For the software installation you should have at least two computers networked together to test the network.

The general instructions for installing DR Net may be found in the *DR Net System Manager's Guide*. The instructions found in this chapter apply to the CompuPro system network generation.

Setting up a Node

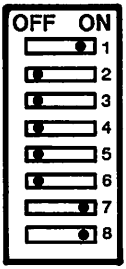
Each "node" on the network must have a unique "node number". This number is used as identification when transferring data across the net.

NOTE: The hexadecimal system is used for node numbers.

In systems with NET 100 and NET 101^{tm} boards, you must set the node number by physically setting Switch 3 on the board. The node number is made up of eight bits. Paddle 8 sets the least significant bit and paddle 1 sets the most significant bit. Nodes may be numbered from 000h (all paddles OFF) through 0FEh (all but paddle 8 ON). No node can be numbered 0FFh (all paddles ON).

If, for example, you have node 083h, Switch 3 would be set as shown on the following page.

S3



Copying the Network Software

Copy the files from the disk labelled DR Net MASTER Disk Number 1 of 1 onto the system drive.

In addition to SP.CMD, DSP.CMD, and PRINTMGR.CMD which are part of the Print Spooler System and the files supplied by Digital Research and described in the *DR Net System Manager's Guide*, the following files are included by CompuPro for system generation:

- CPRONIOS.IN - the input file for GENNET.CMD
- NODE### - the file holding the node number
- NIOS10.CMD - the NIOS for the CompuPro 10
- NIOS100.CMD - the NIOS for the S-100 CompuPro systems
- NIOS286.CMD - the NIOS for the CPU 286 with the NET 100A^{tm} board

The files required to build the network system include the following:

ADDNET	.CMD	CPRONIOS	.IN	GENNET	.CMD
NIOS	.CMD	R	.CMD	RNET	.CMD
RSNET	.CMD	SNET	.CMD	CPADDNET	.CMD
CPGENNET	.CMD				

The files that must remain on the system drive after the generation process for everyday use are:

DSP	.CMD	LOCAL	.CMD	LOGOFF	.CMD
LOGON	.CMD	NAMES	.CMD	NAMESMOD	.CMD
NET	.CMD	NETOFF	.CMD	NETON	.CMD
NETSTAT	.CMD	SPLMAP	.BAT	SPLLOCAL	.BAT
NODE	.###				

Creating DRNET.CMD

GENNET.CMD creates the file DRNET.CMD. DRNET.CMD contains the mappings for your specific network configuration. Before you run GENNET, you must have a file named NIOS.CMD. Create a NIOS.CMD file from NIOS100.CMD as shown below.

Type:

```
          PIP NIOS.CMD=NIOS100.CMD[VROW]  [RET]
```

Or, if the system has a CPU 286 and a NET 100A board, type:

```
          PIP NIOS.CMD=NIOS286.CMD[VROW]  [RET]
```

CompuPro has provided you with an input file, CPRONIOS.IN that supplies all the default values for standard CompuPro systems. This file does not limit access by other systems to this system's drives or map any specific drives, printers, or queues. It is configured for node number 00.

Using GENNET with CPRONIOS.IN

Type:

```
                   GENNET CPRONIOS.IN  [RET]
```

You need only to edit CPRONIOS.IN with a word processor so that the first line is the system's node number and line 14 is the node number of the default server if there is one. CPRONIOS.IN does not specify mapping. If you want to specify mapping, you can either add lines to CRPONIOS.IN or invoke GENNET and answer the GENNET prompts.

Remember that GENNET interprets all numeric input as hexadecimal values.

Using GENNET without the input file

Type:

```
                          GENNET  [RET]
```

GENNET.CMD prompts you for network mappings it needs to generate DRNET.CMD.

You must now answer the questions asked by GENNET with the appropriate values. Remember that GENNET interprets all numeric input as hexadecimal values.

NOTE: It is also possible to generate "requester-only" or "server-only" nodes. Refer to *DR NET Network Software* from Digital Research.

The appropriate values are in **bold** as follows:

What is this machine's physical node ID?	**{x}**
How many shadow processes can work on this machine?	**20**
How many processes can run as network requestors?	**10**
How many copies of the Requestor Configuration Table?	**8**
How many input Line Driver Control Blocks (LDCBs)?	**1**
How many output Line Driver Control Blocks (LDCBs)?	**1**
What is the first flag available for use by DR Net?	**52**
What is the maximum message buffer size?	**1F0**
What is the length of any end-to-end message header?	**9**
What is the length of any end-to-end message trailer?	**0**
How big should the message buffer pool be?	**2000**
How many seconds until a transaction timeout?	**6**
Network server password (8 character limit)?	**PASSWORD**
What server should be your default server (The node number you will normally talk to)?	**{x}**

Note: Flags 52 through nn must be used only by the network.

Is all of the information above correct? (Y/N):	**Y**
What disks do you want mapped across the network intitially? (Use a carriage return when you are through mapping.)	
Local Disk Drive (A: through P:)?	**{x}**
Remote Disk Drive (A: through P:)?	**{x}**
Server node ID of the remote disk drive?	**{xx}**
Disk Drive (A: through P:)?	**[RET]**
List all drives you want protected from network access (use a carriage return when you are through mapping).	
List a private drive :	**[RET]**
What printers do you want mapped across the network initially? (Use a carriage return when you are through mapping.)	
Printer Number (0 through F) :	**[RET]**
What queues do you want mapped across the network initially? (Use a carriage return when you are through mapping.)	
Queue Name (8 characters or less)? :	**[RET]**
Are all of the mappings above correct? (Y/N):	**Y [RET]**

There are several GENNET prompts which you may want to respond to differently than the default values in the input file provided. For example:

- Question 1 concerns the machine's physical node ID. The system may have a physical node ID other than the default value of 0.

- GENNET prompts 14 and 18-23 should be answered according to the setup of the network.

If any of the default values in the CPRONIOS.IN file do not match the system setup, you must either run GENNET without the provided input file or edit CPRONIOS.IN ahead of time with your word processor in non-document mode.

Adding the Network to the System

You must first increase the memory allocation value.

Type:

```
SETMEM 512
```

To add the network to the system file, type:

```
ADDNET  [RET]
```

If you are still working with a CCPM*.SYS file, you must specify the file name.

For example, the system file is CCPMNEW.SYS, type:

```
ADDNET CCPMNEW.SYS  [RET]
```

Once again, to protect yourself from errors, you first might want to PIP the CCPM*.SYS to another name such as CCPMSAV.SYS.

Setting the NODE.### File

At this point, you should edit the NODE.### file with your word processor in non-document mode and insert the number of the node you just generated. This file simply contains a two-digit hexadecimal number and a [RET].

Now, RESET the system and reboot the new network system file. Your network is now installed. If you want to add name service, refer to the *DR Net System Manager's Guide.*

Mapping Drives Across the Network

The drives that are typically mapped across the network are the ones where the physical drive is not present. For example, with a 40 Mbyte hard disk system, drives F:, G:, and H: do not exist locally. Some of the floppy drives may not be present also. These are the best drives to map.

NOTE: Do not map drives N:, O:, and P: across the net. These drives are special Concurrent DOS 4.1 floating drives and must always be local! You should also never map the system drive A: across the net!

Starting the Network

A typical sequence used to start the network would include the following command sequence:

```
NETON [RET]                                  Turn the net ON.
NET F:=A:10:: [RET]                        Map local drive F to
                                      remote drive A on node 10.
NET LSTl:=LST0:10:: [RET]   Map local printer 1 to remote
                                         printer 0 on node 10.
LOGON 10:: [RET]                      Logon to remote node 10.
NETSTAT [RET]                           Get the network status.
```

The typical sequence to logoff the network would be the following command sequence:

```
LOGOFF 10:: [RET]                    Logoff of remote node 10.
NETOFF [RET]                             Turn the network off.
```

Keep in mind that each virtual console must perform this sequence individually. Network mapping is NOT system wide. Also, the NETON and NETOFF commands <u>only</u> affect ability to go out onto the net. If you are running a network operating system, your system resources are available to anyone on the network whether or not you are logged onto the network. To protect resources you must either protect the drives during GENNET or protect the files with SET.

CHAPTER 14

Installing GEM

NOTE: GEM is provided as a development tool and for experimentation only. It should not be run in a commerical multi-user environment where unpredictable effects could cause unforseen problems. CompuPro does not provide support for this release of GEM and is not equipped to handle technical calls regarding it.

The CompuPro GEM distribution disk is used as part of the installation procedure for GEM version 1.2 in conjunction with the GEM distribution disks from Digital Research. Neither the GEM Desktop^{tm} nor any of the GEM applications packages are shipped as part of Concurrent DOS 8-16.

The CompuPro GEM disk includes the virtual device interface (VDI) driver files needed to use GEM version 1.2 with Concurrent DOS 8-16 version 4.1E. Also included on this disk is the installation program for the GEM drivers.

Hardware Requirements

The following hardware is required to run GEM:

- A PC VIDEO board.

  With the standard 16K of video RAM, GEM can be used on a color monitor at 640 x 200 resolution.

  To use GEM with a monochrome monitor at 720 x 348 resolution or with a color monitor at 640 x 400 resolution, the PC VIDEO board must have the 32K RAM option.

  NOTE: Because of objectionable flicker, the standard IBM color monitor is not recommended for 640 x 400 resolution because it does not handle interlaced video. A color monitor capable of operation with interlaced video and with long-persistence phosphor is recommended.

- A minimum of 256 Kbytes of memory.

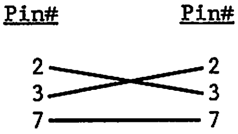
  The GEM Desktop requires a a minimum of 256 Kbytes of memory. Applications run from the Desktop require additional memory.

- A hard disk drive with Drive C: formatted as DOS media.

Adding a Mouse to the System

The CompuPro GEM VDI drivers support the RS-232 version of the PC Mouse from Mouse Systems^{tm} corporation. Connect the mouse via an adapter cable to your computer. Connect this adapter cable to the connector on the computer back panel for the serial port of the System Support 1 board. No other installation is required.

To build the appropriate adapter, connect Pins 2, 3, and 7 of two RS-232 male ends as shown below. Either end may be connected to the computer. Make the connecting cable as long as required for comfortable use.



GEM Installation Requirements

Before you begin the GEM installation, be sure that the following are all present.

- The four Digital Research GEM Desktop distribution disks (not supplied by CompuPro)

- The CompuPro GEM disk

- At least 1,637 Kbytes free on Drive A:

  NOTE: This disk space is only needed during installation; The GEM software will reside on Drive C: after installation.

- A user area with no existing files on Drive A: for temporary storage of the GEM drivers

- Drive C: should be DOS media and needs about 0.5 Mbyte of free space to hold the GEM Desktop and drivers.

In addition, you need to know the make and model of printer(s) that will be used to print GEM files, and whether the PC VIDEO monitor is high or low resolution, color or monochrome.

Using INSTALL.BAT to Install GEM

Insert the CompuPro GEM disk into the floppy drive, and copy the file INSTALL.BAT to Drive 0A:

Log onto Drive 0A: and type:

```
INSTALL {x}   [RET]
```

where *x* is the number of the user area on Drive A: that you have selected to be the temporary storage area for the GEM software.

INSTALL.BAT displays various screens, leading you through the installation procedure. Follow the on-screen instructions.

NOTE: Some of the files on the CompuPro GEM disk have the same names as files on the device driver disks from DRI. Be sure to install GEM in the order described in the .BAT file in order to have the correct driver files for use with Concurrent DOS 8-16.

Don't worry when you see the following questions:

```
Which communication port are you using?
```

and

```
Which printer port are you using?
```

These questions do not apply to CompuPro systems. Just respond with the default option 1.

You might want to PIP the file GEM.BAT from the CompuPro GEM disk to the root directory of drive C:. See the section on starting GEM on the following page.

Using GEM

Refer to the documentation from Digital Research for instructions on using the GEM software packages.

Starting GEM

The major difference between the procedures for using the GEM Desktop under Concurrent DOS 8-16 and the procedures as documented in the *GEM Desktop* manual from DRI is in starting the GEM Desktop.

Before calling up the Desktop, it is best to maximize the contiguous memory available. The minimum necessary is 256 Kbytes.

To find the maximum contiguous memory available at any time, type:

```
STOP   [RET]
```

If there is no memory space available that is at least 256 Kbytes in size, it is necessary to STOP some of the processes or to add more memory.

NOTE: Do not STOP somebody else's process.

Type:

```
ADDMEM (x)   [RET]
```

where x is the maximum size contiguous memory available.

To log into the GEM directory, first log onto Drive C: and then type:

```
CD \GEMSYS   [RET]
```

To start the Desktop, type:

```
GEMVDI   [RET]
```

The CompuPro program GEM.BAT on the CompuPro GEM distribution disk also initiates this process. When GEM.BAT is on the root directory of Drive C:, you can call up GEM by typing:

```
C>GEM   [RET]
```

GEM.BAT then adds 256K of memory, changes the directory to GEMSYS, and calls up GEMVDI.CMD.

APPENDIX A

System, XIOS, and Loader Files

System Files

System files are named CCPM*.SYS where * stands for your particular system configuration. If the system file appropriate for your configuration is not on the system master disks, it can be created from the appropriate XIOS file as described below under **XIOS Files.**

Use the chart below to find the substitute for *.

Disk Size	No PC VIDEO	PC VIDEO
40 MB	340	340P
80 MB	380	380P

XIOS Files

XIOS files are named XIOS*.CON where * stands for your particular system configuration.

There are a number of XIOS files on the system master disks that do not have corresponding system files. These are provided as an aid in installing systems other than the CompuPro standard systems. To install such a system, first create the file XIOS.CON by typing:

```
PIP XIOS.CON = XIOS*.CON  [RET]
```

where XIOS*.CON is the appropriate file from the charts below. Then use GENCCPM to create a system file as described in chapter 9.

Use the charts on the following page to find the substitute for *.

1. For a DISK3 controller (all 286 Systems):

Disk Size	No PC VIDEO	PC VIDEO	2 Hard Drives
10 MB	310	310P	
20 MB	320	320P	
40 MB	340	340P	3402
80 MB	380	380P	3802

2. For a DISK 2 controller:

Disk Size	No PC VIDEO	PC VIDEO
20 MB	220	220P
40 MB	240	240P

3. For floppy drives only:

Drive Size	No PC VIDEO	PC VIDEO
5.25"	F58	F58P
8"	F85	F85P

Loader Files

1. For a DISK 3 controller (all 286 Systems):

Disk Size	No PC VIDEO	PC VIDEO
10 MB	LDCCPM31.86	LCCPMP31.86
20 MB	LDCCPM32.86	LCCPMP32.86
40 MB	LDCCPM34.86	LCCPMP34.86
80 MB	LDCCPM38.86	LCCPMP38.86

2. For a DISK 2 controller:

Disk Size	No PC VIDEO	PC VIDEO
20 MB	LDCCPM22.86	LCCPMP22.86
40 MB	LDCCPM24.86	LCCPMP24.86

3. For a floppy-only system:

Drive Size	No PC VIDEO	PC VIDEO
5.25"	LDCCPMF5.86	LCCPMPF5.86
8"	LDCCPMF8.86	LCCPMPF8.86
8" (DISK1)	LDCCPM81.86	

APPENDIX B

Patching the Loader and GENCCPM with SID-86

Loader Patch Procedure

Concurrent DOS 8-16 has loaders written for almost every system configuration. You may, however, need to change the default values of baud rate, character length, stop bits, and parity for the system console, or you may need to change the floppy disk step rate for a floppy boot disk.

The default console I/O settings for a non-PC VIDEO system are:

baud rate	19.2 Kbaud
character length	8
stop bits	2
parity	none

The default boot floppy step rates are:

8" drives	4 msec
5.25" drives	3 msec

Use the following instructions for patching the loader with SID-86, the debugging program from Digital Research which is included in your system software. For a more detailed description of SID-86, refer to the Digital Research documentation for the CP/M-86 version of *DR Assembler Plus Tools*™ available from CompuPro.

Step 1. Run the program.

Type:

```
SID86   [RET]
```

Step 2. Choose the loader to modify.

At the SID86 prompt, #, type **R** followed by the name of the loader you wish to modify.

For example, you want to change both the baud rate and the floppy step rate of an 8" floppy loader for a non-PC VIDEO system.

Type:

```
RLDCCPMF8.86   [RET]
```

Step 3. Find the locations to change.

Type:

```
DW153F,1541   [RET]
```

Four bytes are displayed on the screen. Find the initialization bytes for the console I/O by adding 0300h to the location pointed to by the second and first bytes. Find the location for the boot floppy step rate by adding 0300h to the location pointed to by the fourth and third bytes.

When you display 0153Fh through 01542h of our sample file LDCCPMF8.86 as words, you see:

```
3840:153F     1A77 181D
```

The sum of 01A77h and 0300h, 01D77h, is the location of the initialization byte for the console I/O.

The sum of 0181Dh and 0300h, 01B1Dh, is the location for the boot floppy step rate.

Step 4. Modify the terminal I/O.

To substitute a value, type S followed by the pointer location. A thorough explanation of the terminal I/O bytes is available in the *System Support 1 Technical Manual.*

To change the console baud rate of the example loader, type:

```
S1D77   [RET]
```

The first byte, at location 01D77h, is the System Support 1 I/O port address. The second is the mode register 1 initialization byte. This is the byte that controls clock rate, stop bits, parity, and character length. The default value is 0EEh, which gives the default console I/O values listed above.

The next two bytes are the System Support 1 I/O address followed by the mode register 2 initialization byte. The low order nibble of this byte controls baud rate. The default value, 07Fh, specifies 19.2 Kbaud.

Step to the byte you wish to substitute by pressing [RET]. Type the new value followed by [RET]. To exit substitute mode, type a period . followed by [RET].

Step 5. Modify the floppy drive step rate.

To substitute a value, type S followed by the pointer location.

For the sample loader, type:

```
S1B1D   [RET]
```

In this byte, the most significant nibble determines the step rate. A value of 0FFh is for a step rate of 1 ms. Each decrement of 1 gives an increase in time of 1 ms down to 00Fh for 16 ms. The default value for the sample 8" loader is 0CFh, or 4 ms.

Type in the new value followed by [RET]. To exit substitute mode, type a period (.) followed by [RET].

Step 6. Save your changes.

Type W followed by the name of the file in which you wish to save the results. You may type in any valid file name, so that if you wish to leave the unmodified loader intact, you may type something like the following:

```
WLDRNEW.86   [RET]
```

If you have a problem with the new loader, you can still use the old one.

Press [CTRL-C] to exit SID-86.

The loader is now ready to be installed onto your boot disk, as described in Chapters 2 and 3.

Patch Procedure for GENCCPM Terminal Characteristics

The CLEAR SCREEN and HOME control codes in GENCCPM are the codes appropriate to a Televideo-compatible terminal. If the terminal is not Televideo-compatible, the screen display during GENCCPM is not very legible. This is a problem only if you are using GENCCPM to alter operating system parameters and need to read the screen output.

Use the following instructions for patching GENCCPM for the appropriate terminal characteristics.

Before you patch GENCCPM.CMD, make sure you have a backup copy.

To run SID-86, type:

```
SID86  [RET]
```

At the SID86 prompt, #, type:

```
RGENCCPM.CMD  [RET]
```

To find the location of the HOME and CLEAR SCREEN character codes, type:

```
S9450  [RET]
```

To substitute a value, type the correct control character code and **[RET]** for each line. You have up to 25 characters possible, and the string must be terminated with a 0. You could put in 25 0A's (25 line feeds) as a simple way to clear the screen. The default value for the sample 8" loader is CF, or 4 ms.

To exit substitute mode, type a period . followed by **[RET]**.

To save your changes, type:

```
WGENCCPM.CMD  [RET]
```

Press **[CTRL-C]** to exit SID86.

Sample Modification

If you have a Zenith Z19 monitor, use the following codes. The bold characters you type in.

```
OA>SID86  [RET]
#RGENCCPM.CMD  [RET]
  START      END
4800:0000 4800:C17F
#S9450  [RET]
4800:9450 1A 1B  [RET]
4800.9451 00 45  [RET]
4800:9452 00 .  [RET]
#WGENCCPM.CMD  [RET]
```

APPENDIX C

Recommended Files

You should keep the following files on drive 0A: for day-to-day operation of Concurrent DOS 8-16.

Files All Systems Must Have

TTYS
LPRS
MFORM .CMD
CCPM .SYS
BATCH .CMD

Files All Systems Should Have

ERA .CMD
CLOCK .CMD
SET .CMD
PIP .CMD
SETMEM .CMD
SDIR .CMD
TYPE .CMD
DISKCOPY .CMD
SHOW .CMD
SUBMIT .CMD
SYSDISK .CMD
SYSTAT .CMD
ERAQ .CMD
REN .CMD
STOP .CMD
DIR .CMD

Optional Files

MONTHLY
CHSET .CMD
XD .CMD
SYSGEN .CMD
8BIT .BAT
ERASE .EXE
PATH .EXE
REN .EXE
COPY .EXE
SPL .CMD
PRINTMGR .CMD
DSP .CMD
SP16 .BAT

If you have a 10 or 20 Mbyte hard disk drive

PARK3 .CMD
PARK3 .DAT

If you want hard disk backup using floppy disks

BACK .CMD
REST .CMD
BRINST .CMD
CONTROL .BR

If you have Drive C: and/or D: as PC-DOS formatted drives or use PC DOS floppy disks

RMDIR .CMD
MKDIR .CMD
CHDIR .CMD

Choose one of these sets of files depending on which 8-bit environment you want and install the Switch as described in Chapter 6

For hardware SPUZ:

SW!SPUZ .CMD SPZ .CMD SPUZ .BAT
AUTOSPUZ .BAT

For software EMULation:

SW!EM .CMD EMUL .BAT

For the 8085 CPU on the dual CPU card:

SW!8085 .CMD CAP8085 .CMD S8085 .BAT
AUTO85 .BAT

If you have an SP186 board

SW186 .CMD INIT186 .CMD STOP186 .CMD
ST16 .CMD SP .BAT

If you want each console to come up into some program or program sequence

CONSOLE0 .BAT CONSOLE1.BAT CONSOLE2 .BAT
etc.

HELP system files

HELP .CMD HELP .HLP

If you want to add or change passwords

PASS .CMD

If any floppy drive that is in the system is the only one of its size

SCOPY .CMD

If you have one or more 5.25" drives

NEWMEDIA .CMD

MENU System file

LSTED .CMD
TXTED .CMD
MENU+ .CMD
NOW .CMD
ADDER .CMD
VIEW .CMD
UTILITYS .CMD
TYPER .CMD
VF .CMD
COMPARE .CMD
MENU .BAT
MENUSDIR .BAT
MENUXD .BAT
MENUSET
MENUPIPC.BAT
MENUDIR .BAT
MENUPIPS .BAT
MENULOG.BAT
APPL .TXT
BACK .TXT
COMM .TXT
DIR .TXT
MENU .TXT
MENUHELP.TXT
HELP .TXT
NET .TXT
UTIL .TXT
APPL .LST
BACK .LST
COMM .LST
DIR .LST
HELP .LST
MENU .LST
NET .LST
UTIL .LST

AMCALL/AMCALLN files

AMCALL .ZIP
UNLOAD .COM
PHONE .NUM
PHONE- .NUM
CONFIG .DOC
SETBAUD .CMD
CONFIG .CMD
AMCALLN .CMD
AMCALL .CMD
AUXIO .CMD
AMCALL .HLP
INSTALL .DOC
AMEXIT
README .DOC

Files that require a PC VIDEO board (color or monochrome)

WINDOW .CMD
CARDFILE .CMD
CARDDECK .BAT
WMENU .CMD
CARDFILE.DIS
DREDIX .CMD
FUNCTION .CMD
CARDFILE .EDX
HELP .EDX

File Manager files

FM .CMD
FM .CFG
TERM? .DAT

Files for system regeneration

BDOS .CON
CIO .CON
SHELLP .RSP
XIOS .CON
CPROXIOS .IN
RTM .CON
MEM .CON
PIP .RSP
CDOSINST .CMD
CPROFLPY.IN
SUP .CON
SYSDAT .CON
STATLINE .RSP
GENCCPM .CMD

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APPENDIX D

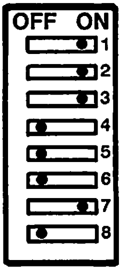
Standard Switch and Jumper Settings

CPU BOARDS

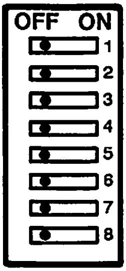
CPU 8085/88 F Revision or Earlier

Switch Settings

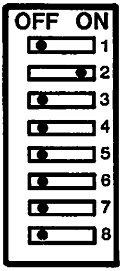
S1



S2



S3



S4 - Set to "5 MHz"

Jumper Settings

J1-J7 No jumper connections on board

CPU 8085/88 G Revision or Later

Switch S2 settings do not affect board operation. Set all paddles OFF.

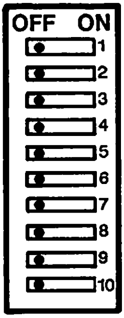
Jumper Settings

J1-J7 No jumper connections on board

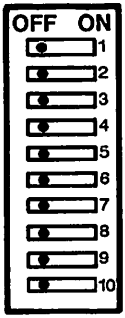
CPU 8086

Switch Settings

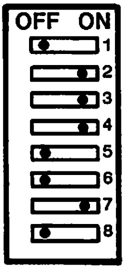
S1



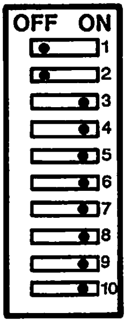
S2



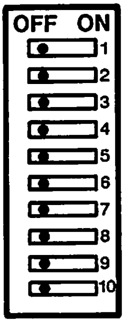
S3



S4



S5



Jumper Settings

J0-J7	No shunt
J8	No shunt installed if using an 8087 coprocessor, otherwise install shunt.

See note on SYSTEM SUPPORT 1 switch settings.

CPU 286

All board revisions: See note on System Support 1 switch settings.

Revision 451 - 10 Mhz board

Jumper Settings

J1	Shunt B with RAM 24; shunt C otherwise
J2	No pins, no jumpers
J3-J6	Shunted via trace on board
J7	No pins, no jumpers
J8	Shunted via trace on board
J9	No pins, no jumpers

Revision 451 - 8 Mhz board

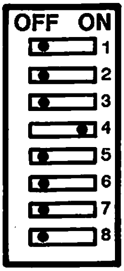
Jumper Settings

J1	Shunt B with RAM 24 or C revision RAM 22; shunt C otherwise
J2-J9	Shunt as for 10 Mhz board, above

Revision 201

Switch Settings

S1



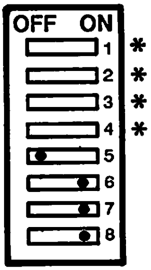
Jumper Settings

J1	A-C (The top two pins and bottom two pins on the
J2	A-C six located next to U13 should have shunts.)
J3	Shunt A and B (the top two pairs)
J4	No shunt
J5	Shunted via trace on board

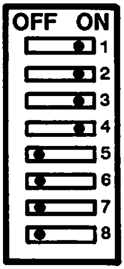
- This board must have ECO 180. This ECO replaces PAL 295 with PAL 295A at U18.

Switch Settings

S1



S2



* Settings of Switch 1 paddles 1 through 4 on an SP186 board determine the Select Address of the board as shown below.

Board Number	Paddle Number 1	2	3	4
1st	ON	ON	ON	ON
2nd	ON	ON	ON	OFF
3rd	ON	ON	OFF	ON
4th	ON	ON	OFF	OFF
5th	ON	OFF	ON	ON
6th	ON	OFF	ON	OFF
7th	ON	OFF	OFF	ON
8th	ON	OFF	OFF	OFF

NOTE: Boards 9 through 15 have paddle 1 OFF and repeat the pattern on Switch 1 paddles 1 through 4 that is used for boards 1 through 8.

Jumper Settings

Revision A

J1 - J8	Shunted via trace on board
J9	Shunt V10 (top most position shunted)
J10	No shunt
J11	No shunt

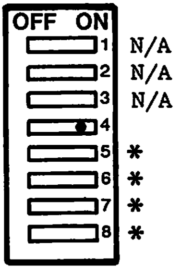
Revision B

J1 - J11	same as above.
J12	No shunt
J13	No shunt
J14	No shunt if less than 1M of memory in system. Install shunt if 1M or greater.

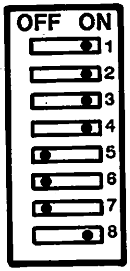
SPUZ REV 257D or later

Switch Settings

S1



S2



* Settings of Switch 1 paddles 5 through 8 on a SPUZ board determine the Select Address of the board as shown below.

Board	Paddle Number			
Number	5	6	7	8
1st	ON	ON	ON	ON
2nd	ON	ON	ON	OFF
3rd	ON	ON	OFF	ON
4th	ON	ON	OFF	OFF
5th	ON	OFF	ON	ON
6th	ON	OFF	ON	OFF
7th	ON	OFF	OFF	ON
8th	ON	OFF	OFF	OFF

NOTE: Boards 9 through 15 have paddle 1 OFF and repeat the pattern on Switch 1 paddles 1 through 4 that is used for boards 1 through 8.

Jumper Settings

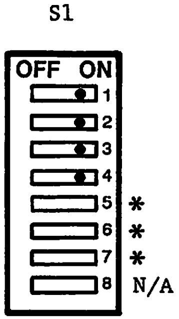
J1	B shunted via traces on board
J2	Position VI O
J3	Shunted A-C via traces on board

MEMORY BOARDS

The switch settings on a RAM memory board determine where the starting page of the board is located in memory. Each page occupies 64 Kbytes of memory. You can have up to 1 Mbyte of RAM memory in your CompuPro system from page 0 to page 15. Set the paddles of switch 1 of memory boards to the binary form of the first 64K page location in memory that the board occupies, where ON is 0 and OFF is 1.

RAM 21 (takes up two pages in memory)

Switch Settings



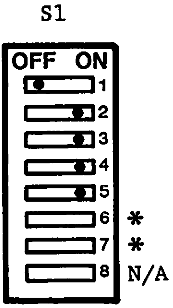
* Page Number	Number		
	5	6	7
0	ON	ON	ON
2	ON	ON	OFF
4	ON	OFF	ON
6	ON	OFF	OFF
8	OFF	ON	ON
10	OFF	ON	OFF
12	OFF	OFF	ON
14	OFF	OFF	OFF

Jumper Settings

No jumper connections are on the board.

RAM 22 (takes up four pages in memory)

Switch Settings



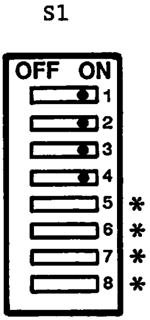
* Page	Paddle Number	
Number	6	7
0 . . .	ON	ON
4 . . .	ON	OFF
8 . . .	OFF	ON
12 . . .	OFF	OFF

Jumper Settings

J1 - Shunt installed

RAM 23 (64K Version - takes up a single page in memory)

Switch Settings



* Page	Paddle Number			
Number	5	6	7	8
0 . . .	ON	ON	ON	ON
1 . . .	ON	ON	ON	OFF
2 . . .	ON	ON	OFF	ON
3 . . .	ON	ON	OFF	OFF
4 . . .	ON	OFF	ON	ON
5 . . .	ON	OFF	ON	OFF
6 . . .	ON	OFF	OFF	ON
7 . . .	ON	OFF	OFF	OFF
8 . . .	OFF	ON	ON	ON
9 . . .	OFF	ON	ON	OFF
10 . . .	OFF	ON	OFF	ON
11 . . .	OFF	ON	OFF	OFF
12 . . .	OFF	OFF	OFF	ON
13 . . .	OFF	OFF	OFF	OFF
14 . . .	OFF	OFF	OFF	ON
15 . . .	OFF	OFF	OFF	OFF

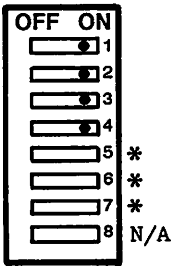
Jumper Settings

J1 B-C

RAM 23 (128K Version - takes up two pages in memory)

Switch Settings

S1



* Page Number	Paddle Number 5	6	7
0	ON	ON	ON
2	ON	ON	OFF
4	ON	OFF	ON
6	ON	OFF	OFF
8	OFF	ON	ON
10	OFF	ON	OFF
12	OFF	OFF	ON
14	OFF	OFF	OFF

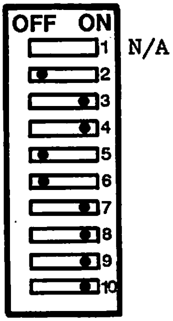
Jumper Settings

J1 A-C

RAM 24 (1 Mbyte Version - takes up 16 pages in memory)

Switch Settings

S1



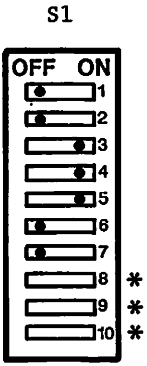
MDrive/H

Up to 16 Megabytes of 2 Mbyte MDrive/H boards or up to 4 Mbytes of 512 Kbyte MDrive/H boards can exist at the same port address; only the cascade address needs to be different for each board. The switch settings on an MDrive/H board determine the cascade address that board.

You may combine a single 2 Mbyte Mdrive/H board with up to four 512 Kbyte MDrive/H boards. If you do combine boards, set the 2 Mbyte board at address 1 and the 512 Kbyte boards at addresses 5, 6, 7, and 8.

The switch and jumper settings for the 2 Mbyte and 512 Kbyte versions of MDrive/H are identical.

Switch Settings



Address Location	Switch Number 8	9	10
1st	ON	ON	ON
2nd	ON	ON	OFF
3rd	ON	OFF	ON
4th	ON	OFF	OFF
5th	OFF	ON	ON
6th	OFF	ON	OFF
7th	OFF	OFF	ON
8th	OFF	OFF	OFF

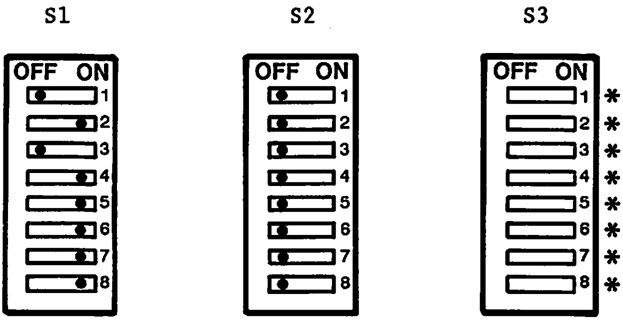
Jumper Settings

J1 There is no J1 on 197C boards. On 197 B boards and earlier, do not shunt.

NOTE: For the eighth 2 Mbyte MDrive/H in a system, replace U17 with PAL 3200-0428.

NET 100/101

Switch Settings



*

Set Switch 3 to the binary form of the logical node number that this node is to occupy, where OFF is 0 and ON is 1. Paddle 8 is the low order bit. Paddle 1 is the high order bit. All numbers from 00 to FE are valid.

Jumper Settings

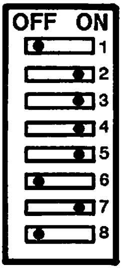
J1-J2	Shunted via trace on board
J3	A-C (bottom pair)
J4	No jumper connection on board
J5	Shunt C (third pair down)

CONSOLE INPUT/OUTPUT

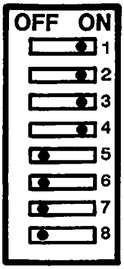
SYSTEM SUPPORT 1

Switch Settings

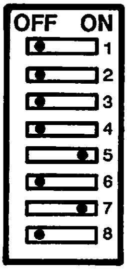
S1



S2



S3



Jumper Settings

J1	Serial port connection.
J2	Insert an 8-pin dip shunt, shunting either lines 1-7 or all 8 lines. If all 8 positions are shunted, it will use a very small amount of extra power.
J3	Plug in auxiliary battery cable, red wire toward the left.
J4	No shunt
J5-J6	No jumper connections on board
J7	No shunt
J8	Insert 8 position shunt
J9-J10	No jumper connections on board
J11-J12	Shunted via trace on board
J13	Insert shorting plug onto prongs 8 and C (Revision numbers 162G and later)

ROM Sockets

U16 and U17 -- No chips need be installed for current version of the operating system.

ICs

NOTE: **If you are going to use the CPU 8086 or CPU 286 with** System Support 1, you must perform the following steps on the System Support 1 Board. This modification will not affect CPU 8085/88 operation.

1. Carefully pull IC U28 from its socket. (IC U28 is located on the right hand side of the board.)

2. Bend out pin 4 so that when the IC is replaced, pin 4 will not make contact with the socket or anything else.

3. Replace IC U28 back in its socket and verify that each pin except pin 4 is back in its hole.

ECO 179

If the System Support 1 board does not already have this modification (as signified by an "ECO 179" label on the component side of the board), it needs the following procedure:

1) Carefully pull IC U44 (74LS74) from its socket. Bend pin 9 out so that when the IC is replaced, pin 9 will not make contact with the socket or anything else. Replace IC U44 back in its socket and verify that each pin is back in its hole.

2) Carefully pull IC U18 (74LS32) from its socket. Bend pin 11 out so that when the IC is replaced, pin 11 will not make contact with the socket or anything else. Replace IC U18 back in its socket and verify that each pin is back in its hole.

3) On the solder side of the board, install a jumper wire between pins 9 and 10 of IC U44.

4) On the solder side of the board, install a jumper wire between pins 1 and 8 of IC U46.

INTERFACER BOARDS

Interfacer 3 and Interfacer 4 boards can be used alone or in combination.

- When used alone, the Interfacer 3 board supports relative users 0 to 7.
- When used alone, the Interfacer 4 board supports relative users 4 to 7.
- Use the following table for Interfacer boards in combination:

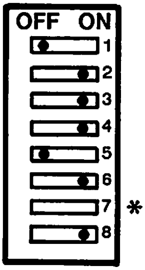
First Board	Second Board
Interfacer 3 (relative users 0-7)	Interfacer 3 (relative users 8-15)
Interfacer 3 (relative users 0-7)	Interfacer 4 (relative users 8-11)
Interfacer 4 (relative users 4-7)	Interfacer 4 (relative users 8-11)

NOTE: The user number used by CDOSINST.CMD is always 1 more than the Interfacer relative user number, to allow for the system console which is User 0.

INTERFACER 3 or INTERFACER 3A

Switch Settings

S1



* Paddle 7 is set ON for a first Interfacer 3, OFF when this is the second Interfacer 3.

Jumper Settings - Interfacer 3A only

JS1	Place 4 position dip shunt in the right 4 slots for use with a modem or the left 4 slots for use with a terminal at relative user 7
J1-J13	Shunted via trace on board

Jumper Settings - Interfacer 3 only

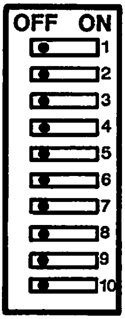
J1	Install AMCALL modem header (described in AMCALL and AMCALLN Supplement).
J2	Insert an 8-pin dip shunt, shunting either lines 1-7 or all 8 lines. If all 8 positions are shunted, it will use a very small amount of extra power.
J3-J14	No jumper connections on board
J15	Connect pins 9-16 to pin 5 on dip header
J16	Connect pins 1-8 to pin 11 on dip header
J17	Jumper bottom two pins (B-C)
J18	No jumper connections on board

INTERFACER 4 C Revision and greater

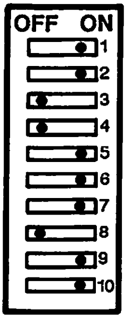
Switch settings

Used as the only Interfacer board or as the first Interfacer 4 of two (users 4 through 7):

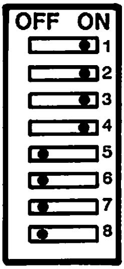
S1



S2

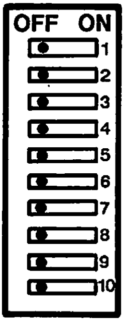


S3

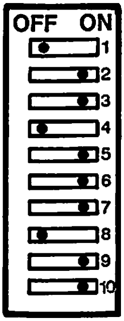


Used with Interfacer 3 or as the second Interfacer 4 (users 8 through 11):

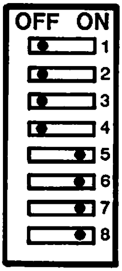
S1



S2



S3



Jumper Settings Revision E

Used either as users 4 through 7 or as users 8 through 11.

J1	No shunt
J2	Shunt bottom with some parallel printers. No shunt otherwise.
J3	Shunt top with some parallel printers. No shunt otherwise.
J4	Shunt bottom with most parallel printers.
J5-J6	No shunt
J7	Shunt installed
J8-J25	No shunt
J26	Shunted via trace on board.
J27	No shunt
JS1	Install AMCALL modem header (described in AMCALL and AMCALLN Supplement) for systems with Interfacer 4 as users 4 through 7. Otherwise shunt the same as JS2 and JS3.
JS2, JS3	Insert an 8-pin dip shunt, shunting either lines 1-7 or all 8 lines. If all 8 positions are shunted, it will use a very small amount of extra power.
JS4	No connections.

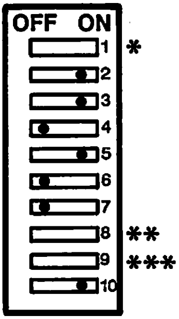
Jumper Settings - Revision C

Jumper Settings are the same as for Revision E, with the addition of the following:

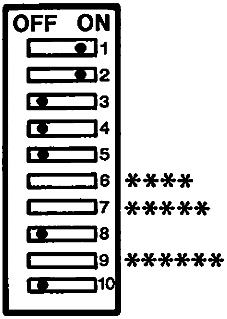
J26	A-B and C-D
JS5	Connect pins 13-16 to pin 5 on dip header.
JS6	Connect pins 9-12 to pin 6 on dip header.

Switch Settings

S1



S2



S1-1*	OFF if you have more than 704 Kbytes of RAM; ON for 704 Kbytes or less
S1-8**	OFF for color monitor; ON for monochrome monitor
S1-9***	OFF for 32k video RAM; ON otherwise.
S2-6****	OFF for color monitor; ON for monochrome monitor
S2-7*****	ON for color monitor; OFF for monochrome monitor
S2-9******	OFF for color monitor; ON for monochrome monitor

Jumper Settings

J1	A-C for COLOR, B-C for MONO
J2	B-C
J3	Shunt position 1 (left-most)
J4	Shunt position 5 with the following exception: when using one color and one monochrome board, shunt monochrome board only

Revision #229G or later:

J5	Shunt for blinking cursor
J6	B-C

Revision #229G1 or later:

J7	Shunt for 32K of video RAM

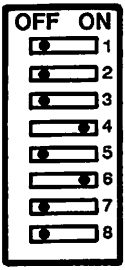
DISK CONTROLLERS

DISK 1A

Switch Settings

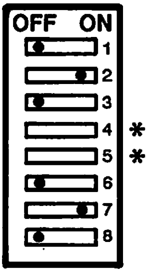
S1 settings with EPROMS older than #291:

S1



S1 settings with EPROMS #291 or greater:

S1



POSITION		BOOT
4	5	ROUTINE
On	On	8" Floppy/DISK 3
On	Off	DISK 3
Off	On	8"/5.25" Floppy
Off	Off	5.25" Floppy/DISK 3

* Set S1 paddles 4-5 as shown above depending on the type of boot routine you want.

8" Floppy/DISK 3 searches for a loader on the first 8" floppy disk and then on the hard disk.

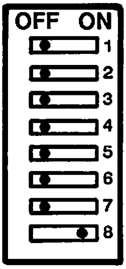
DISK 3 searches for a loader on the hard disk.

8"/5.25" Floppy searches for a loader on the first 8" floppy disk, then on the first 5.25" floppy disk, then cycles between the two.

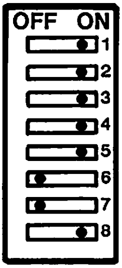
5.25" Floppy/DISK3 searches for a loader on the first 5.25" floppy disk and then on the hard disk

S2 and S3 settings for all EPROMs:

S2



S3



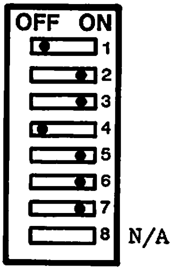
Jumper Settings

J1-J2	Shunt position 5
J3-J4	Shunt position 8
	J1 through J4 control the L, K, J, and I drives in that order. Position 8 selects an 8" drive; position 5 selects a 5.25" drive.
J5	F revision boards and later, shunt if tape drive installed, no shunt otherwise. J5 is not present on C or D revision boards. Tape drives on C and D revision boards require ECO 56.
J6	A-C
J7	No shunt
J8	B-C for EPROM #291, A-C otherwise
J9	B-C for EPROM #291, A-C otherwise
J10	Shunt position 4
J11	Shunt
J12	Shunted via trace on board
J13	No shunt

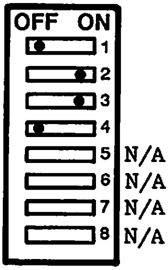
Switch Settings

Revision D

S1

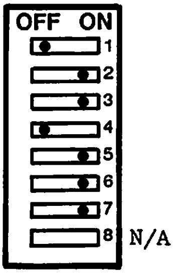


S2



Revisions F and G

S1



Jumper Settings:

J1	Connector for drive 1 data cable
J2	Connector for drive 2 data cable
J3	Connector for drive 3 data cable
J4	Connector for drive 4 data cable
J5	Connector for daisy chained control cable for all drives.
J6	(Not currently used.)
J7	B-C
J8	A-C
J9	Jumper position 1.
J10	Jumper top position (F, G revisions only).
J11	Jumper positions 1 and 2 (F, G revisions only).

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Appendix E

Using the SP186

Initializing the SP186 Board

After every BOOT or reset, instructions must be sent to the SP186 board to prepare it to allow the system CPU to use it as a slave. If this is not done correctly, as soon as an attempt is made to run a program on the SP186, the system crashes.

The initialization program for the SP186 is called INIT186.CMD. When you use the Menu+ switch installation program (as documented in Chapter 6), Menu+ creates an AUTO.BAT file which includes INIT186.CMD. Be careful, however, if you are writing your own AUTO.BAT: If you also have a SPUZ, SPZ.CMD <u>must</u> be run <u>before</u> INIT186.CMD.

Setting Up a Program to Run Automatically on the SP186

The program SP.BAT is a three-line batch file which sets the SP flag=ON in the program header of a .CMD file. Once the SP flag on a program header has been set ON, that program automatically runs on an SP186 board, if a board is available.

The instructions for SP.BAT are in Chapter 6.

Using the SP186 Directly

Even if a .CMD program is not set up to run directly on the SP186, it can be made to do so by invoking it through the switch program SW186.CMD.

Type:

```
SW186 (filename)  [RET]
```

Status and Stop Programs for the SP186

If a process running on the 16 bit slave hangs up, you can stop that process from another console (virtual or physical) on the system.

From the other console, type:

```
ST16  [RET]
```

ST16.CMD displays the status of all SP186 boards in the system in a format something like the following display:

```
16 bit Slave Processor(s) usage

NAME         CONS ID       PD       STAT
-------      --------      ----     ------
```

NOTE: Each SP186 board can run two processes, so two lines per board are displayed.

Note the NAME and CONS ID of the process that is hung up, and press any key to exit the program.

To stop the process, type:

```
STOP186 {name} {cons id}  [RET]
```

CAUTION: Although ST16.CMD appears to be very much like SYSTAT.CMD, and STOP186.CMD appears to be very much like STOP.CMD, the programs are not interchangable:

- SYSTAT shows only the small amount of system memory required to run a process on the slave.
- STOP only frees the system memory used by a process. If you STOP a process you cannot access that part of the SP186 board running the process until the system is RESET.

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CompuPro™

Concurrent DOS 8-16™
Installation and Customization Guide

Version 4.1E

Change Notice #1

This addendum becomes part of 8222-0043 Concurrent DOS 8-16 Installation and Customization Guide Version 4.1E. Please insert the accompanying page after page 106 in your manual.

Included with this version of the operating system is the software necessary to use the SP186 16-bit slave processor. Appendix E of the manual contains the instructions necessary for using the SP186 in a system.

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8222-0043C1

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CompuPro

6/17/86

Dear Concurrent DOS 8-16 Customer:

CompuPro's Software Engineering Department and the Product Assurance Department have worked together for several months to develop and test this new version of Concurrent DOS 8-16. The 4.1E release provides many new enhancements and corrections over previous versions of the operating system. The enclosed 4.1E release notes will aid you in identifying and utilizing them.

Since no operating system is 100% perfect, Product Assurance would like to keep you, the customer, informed of the bugs that have been found and their solutions. To accomplish this, we need your help. We have enclosed a blank SOFTWARE BUG REPORT that we hope you will not have to use. However, if you do find a bug, please fill the sheet out completely and mail it to the Product Assurance Department at the address listed on the sheet. We will do our best to verify that the problem exists and correct it.

When a bug has been identified and documented, this information will be sent to our System Centers and Distributors so that they may keep you informed of these problems and their solutions.

Enclosed please find a bulletin identifying the first known problems, and a SOFTWARE BUG REPORT. Please keep these sheets with your Concurrent DOS 8-16 documentation for future use.

I also strongly encourage you to return the USER INFORMATION CARD that you have received with Concurrent DOS 4.1. This will allow us the opportunity to keep you informed of updates, bug patches, and improvements in this software.

Thank you for your continued support.

Kevin C. Fischer
Vice President, Product Assurance

Appendix E

Using the SP186

Initializing the SP186 Board

After every BOOT or reset, instructions must be sent to the SP186 board to prepare it to allow the system CPU to use it as a slave. If this is not done correctly, as soon as an attempt is made to run a program on the SP186, the system crashes.

The initialization program for the SP186 is called INIT186.CMD. When you use the Menu+ switch installation program (as documented in Chapter 6), Menu+ creates an AUTO.BAT file which includes INIT186.CMD. Be careful, however, if you are writing your own AUTO.BAT: If you also have a SPUZ, SPZ.CMD <u>must</u> be run <u>before</u> INIT186.CMD.

Setting Up a Program to Run Automatically on the SP186

The program SP.BAT is a three-line batch file which sets the SP flag=ON in the program header of a .CMD file. Once the SP flag on a program header has been set ON, that program automatically runs on an SP186 board, if a board is available.

The instructions for SP.BAT are in Chapter 6.

Using the SP186 Directly

Even if a .CMD program is not set up to run directly on the SP186, it can be made to do so by invoking it through the switch program SW186.CMD.

Type:

```
SW186 (filename)  [RET]
```

Status and Stop Programs for the SP186

If a process running on the 16 bit slave hangs up, you can stop that process from another console (virtual or physical) on the system.

From the other console, type:

```
ST16 [RET]
```

ST16.CMD displays the status of all SP186 boards in the system in a format something like the following display:

```
     16 bit Slave Processor(s) usage

   NAME        CONS ID        PD       STAT
   ----        -------        --       ----
```

NOTE: Each SP186 board can run two processes, so two lines per board are displayed.

Note the NAME and CONS ID of the process that is hung up, and press any key to exit the program.

To stop the process, type:

STOP186 {*name*} {*cons id*} [RET]

CAUTION: Although ST16.CMD appears to be very much like SYSTAT.CMD, and STOP186.CMD appears to be very much like STOP.CMD, the programs are not interchangable:

- SYSTAT shows only the small amount of system memory required to run a process on the slave.
- STOP only frees the system memory used by a process. If you STOP a process you cannot access that part of the SP186 board running the process until the system is RESET.

CompuPro™

Update Pages for
Concurrent DOS 8-16™ User Guide
Change Notice #1

The *Concurrent DOS 8-16 User Guide*, First Edition: March 1986, Part No. 8222-0034, can be updated to reflect all Revision 4.1E changes by replacing original pages with the enclosed update pages. The new pages have "C1" printed at the bottom. Page numbers on original and update pages are the same. Below is a list of the pages affected.

Table of Contents, first page only.

Chapter 2, pages 9 through 12.

Chapter 3, pages 15 through 20.

Chapter 4, page 21-22

Chapter 10, page 81-82.

Appendixes C, D, and E, pages 97 through 100.

Index, pages 101 through 104.

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What you are concerned with is the message that appears on your console after the messages shown above have gone by, and what this is will depend on how your system was configured when it was installed. You may get a request to log in, you may get a system prompt, or the Menu may appear. In any case, if you enter the appropriate responses as shown below you will end up at the same place.

Logging On

Some system installations require you to log on with a name:

```
CompuPro Concurrent DOS 8-16

Name: _
```

Type:

name [RET]

where "name" is your preassigned user name.

The system may next ask you to enter a password:

```
CompuPro Concurrent DOS 8-16

Name:  "name"

Password: _
```

Type:

password [RET]

where "password" is your preassigned password. The password is not visible on the screen.

If you make a mistake when you type the name or password, you will get the message "Login incorrect." The Name: prompt will reappear, and you can try again.

Or the system prompt may appear:

```
CompuPro Concurrent DOS 8-16

0A>_
```

Before you type in a response to system prompt "0A>" shown above, let's talk about what it means. When a prompt like this appears on your terminal, it means that the operating system is asking you to tell it what to do, and you can call up any available program or system command by typing in the appropriate name. In this case you want to see the Menu, so you will ask for it by typing:

MENU [RET]

Depending on how your system is configured, you may not see the system prompt at all. The menu may come up without your having to ask for it. In either case the menu will look something like this:

```
                    CompuPro Program Menu

Applications . . overlay A
Utilities    . . . submenu U
Communications . overlay C
Backup . . . . . submenu B
Networking . . . submenu N
Directories   . . overlay D
Time & Date   . . program T

HELP . . . . . . . overlay ?

Hit <ESC> to exit menus. Copyright (C) 1986 Viasyn Corp.

''' Please Enter Selection >>>_
```

Using the Menu

To use the menu, press the appropriate letter to select what you want to do. For example, to run an applications program, press A, and an overlay of selections will appear on the menu.

```
                    CompuPro Program Menu

Applications . .overlay A-|1 NEWWORD Word Processor
Utilities  . . .submenu U |2 SuperCalc 2 Spreadsheet
Communications .overlay C
Backup . . . . .submenu B
Networking . . .submenu N
Directories  . .overlay D
Time & Date  . .program T

HELP . . . . . . overlay ?

Hit <ESC> to exit menus. Copyright (C) 1986 Viasyn Corp.

''' Please Enter Selection >>>_
```

Press the appropriate key from the overlay to select the application program you wish to use. NewWord and SuperCalc are complete software packages that are included with the CompuPro computer. Refer to the application program manual for instructions on using the program. When you exit from the application program, you are returned to the menu. The various menu selections and features are described fully in the next chapter.

Ending a Work Session

You should log out when you have completed your work session at the terminal, and how you do this will depend on how you logged on. If the menu came up automatically when you booted the system, then all you need to do to logout from the menu is to type:

[ESC]

and the following information will appear on the console.

```
Menu+ Version x.xx, date
Copyright (c) 1983, Steve Rose.
     All rights reserved.

CompuPro Concurrent DOS 8-16
Name: _
```

This message tells you that the system is waiting for someone to log on.

If your system asked you to log on and then required you to call up the menu in response to a system prompt such as 0A>, then you will again see the system prompt after you press the [ESC] key to leave the menu.

```
Menu+ Version x.xx, date
Copyright (c) 1983, Steve Rose.
     All rights reserved.

0A>_
```

Type:
  LOGOUT [RET]

Once logged off, you will briefly see a logout display showing your logon name, time of day, date, and the length of time you were using the computer.

```
"name" logged off at HH:MM:SS Day MM/DD/YY
                  Connect time:  HH:MM:SS
```

The terminal then returns to the logon message, and anyone can log on.

```
CompuPro Concurrent DOS 8-16

Name: _
```

CHAPTER 3

Menu Selections

In the previous chapter we introduced you briefly to the Menu that is part of the Concurrent DOS 8-16 operating system. In this chapter we will go into more detail about the menu and introduce you to some other helpful features that make the operating system easier for you to use.

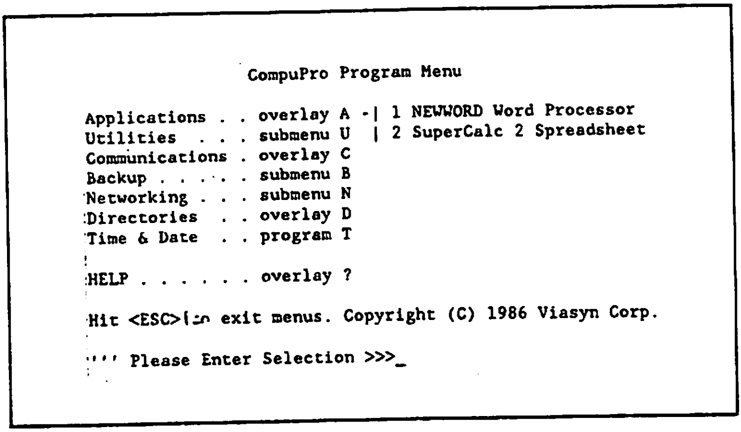
Menu

Each of the operating system commands you will learn about in this manual can be called up directly by typing in its name in response to a system prompt such as 0A>. As you saw in Chapter 2, MENU was called up in this way. The Menu provides a simplified way to access programs, since it lists the programs by name to help you find them, and it lets you call them up by entering a single keystroke instead of an entire command name.

When you first call up the Program Menu, you see the main menu that looks looks something like this:

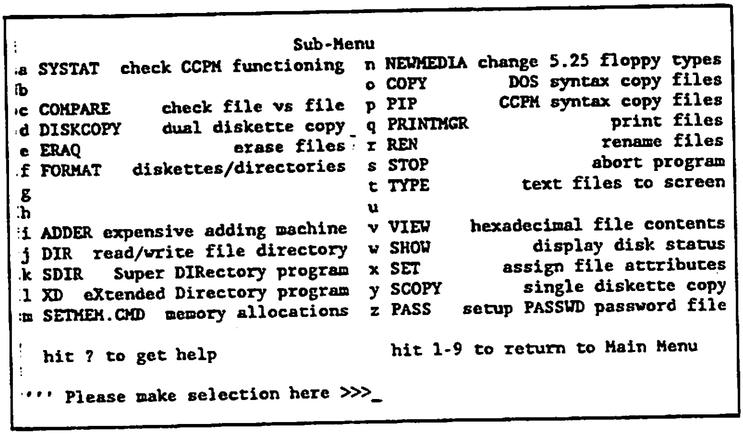
```
                    CompuPro Program Menu

Applications . . overlay A
Utilities    . . . submenu U
Communications . overlay C
Backup . . . . . . submenu B
Networking . . . submenu N
Directories   . . overlay D
Time & Date   . . program T

HELP . . . . . . . overlay ?

Hit <ESC> to exit menus. Copyright (C) 1986 Viasyn Corp.

''' Please Enter Selection >>>_
```

Note that some selections are called overlays and some are called submenus. If only a few selections are listed in the menu category, they are displayed in an overlay to the right of the main menu selections. For example, in the previous chapter when we pressed A for Applications, our choices were displayed as an overlay that looked like this.



```
                         CompuPro Program Menu

Applications . . overlay A -| 1 NEWWORD Word Processor
Utilities  . . . submenu U  | 2 SuperCalc 2 Spreadsheet
Communications . overlay C
Backup . . . . . submenu B
Networking . . . submenu N
Directories  . . overlay D
Time & Date  . . program T

HELP . . . . . . overlay ?

Hit <ESC> to exit menus. Copyright (C) 1986 Viasyn Corp.

    Please Enter Selection >>>_
```

To return to the main menu, press any key except those that are used to make selections from the overlay. Now let's call up the Utilities submenu by pressing U.



```
                              Sub-Menu
a SYSTAT  check CCPM functioning   n NEWMEDIA change 5.25 floppy types
b                                  o COPY         DOS syntax copy files
c COMPARE     check file vs file   p PIP         CCPM syntax copy files
d DISKCOPY    dual diskette copy   q PRINTMGR               print files
e ERAQ                erase files  r REN                   rename files
f FORMAT   diskettes/directories   s STOP                 abort program
g                                  t TYPE           text files to screen
h                                  u
i ADDER expensive adding machine   v VIEW    hexadecimal file contents
j DIR  read/write file directory   w SHOW           display disk status
k SDIR   Super DIRectory program   x SET        assign file attributes
l XD  eXtended Directory program   y SCOPY         single diskette copy
m SETMEM.CMD  memory allocations   z PASS   setup PASSWD password file

  hit ? to get help                 hit 1-9 to return to Main Menu

    Please make selection here >>>_
```

Notice that this submenu contains many more selections than the previous overlay did and that it completely replaces the main menu. The choices you see here are all utility programs that are part of the Concurrent DOS 8-16 operating system. You will learn more about them later in this manual. Now let's return to the main menu by pressing one of the number keys.

The next four choices in the main menu are Communications, Backup, Networking, and Directories.

- The Communications menu includes the commands used to enable your computer to communicate with other computers across telephone lines.
- The Backup menu includes the commands needed to copy files between hard disk and floppy disk drives.
- The Networking menu includes the commands used to connect your computer to other computers so that they can use each other's disk drives, printers, etc.
- The Directories menu provides commands that let you see the names and types of files stored on hard disks and floppy disks.

The final two choices in the main menu are "Time & Date" and "HELP", and we will describe these in more detail.

See the Current Time

Want to know the current time? Have you forgotten today's date? If these are not shown on your terminal's status line, you can easily display them by selecting item T from the menu.

```
                        CLOCK v1.2
                        **********
                     (c) VIASYN 1985
   Press 'S' to Set Clock, or any other key to exit:
                         07/11/85
                         Thursday
                         14:57:12
```

In this example it is Thursday, July 11, 1985. The time (military time is used) is 2:57 PM and 12 seconds.

If you press S you are instructed how to change the date, time format, and time.

For military time:

- 0100-1200 is 1:00 AM to noon
- 1300-2400 is 1:00 PM to midnight

NOTE: At midnight ("2400 hours") the clock rolls over to zero.

Press any key to return to the main menu.

Finding Help

The final selection in the main menu is the HELP overlay, which offers you different types of assistance. To call up the HELP overlay, type ? and you will see something like the following on your terminal.

```
                  CompuPro Program Menu

Applications . .overlay A
Utilities    . . .submenu U
Communications .overlay C
Backup . . . . .submenu B   | 1 Information about the
Networking . . .submenu N   |   MENU+ system.
Directories  . .overlay D   |
Time & Date  . .program T   | 2 Instructions for each
                            |   Concurrent CP/M
HELP . . . . . .overlay ?--|   Command and file.

Hit <ESC> to exit menus. Copyright (C) 1986 Viasyn Corp.

    Please Enter Selection >>>_
```

If you select 1, your terminal will display helpful information about the menu system and how it works. We have covered most of this information in this chapter. If you select 2, you will have a choice of either entering the name of the command or file you want help with or of calling up a very useful display that looks something like the following:

```
 HELP UTILITY V.2.0

At HELP(Enter topic,ESC to exit)>enter topic(subtopic)

EXAMPLE:HELP (Enter topic, ESC to exit)> DIR EXAMPLES

Topics available:

ACTIONKEYS ADDMEM    AMCALL  ASSIGN      AUXIO  BACK
BACKREST   BACKUP    BATCH   CDOSINST    CHDIR  CHDSK
CHSET      CLOCK     COMSIZE COMMUNICATE COPY   DEL
DIR        DISKCOPY  DISK3   8087        ERAQ   ERASE
FILEMGR    FM        FORMAT  FREEMEMORY  HELP   HOWTO
INITDIR    MKDIR     PARK3   PASS        PIP    PRINTER
PRINTING   PRINTMGR  REN     RENAME      REST   RESTORE
RMDIR      SCOPY     SDIR    SET         SHOW   STOP
SUSPEND    SYSDISK   TYPE    USER        VERIFY WHO

HELP (ENTER TOPIC, ESC TO EXIT)>_
```

For more information on a topic, type:

topicname [RET]

For example, if you ask for information on HELP, you will get a description of the HELP program and how to use it. When you exit from HELP, you return directly to the main menu.

Return to CDOS 8-16

Press [ESC] in the main menu and you'll soon see one of the following:

- The "system prompt" (0A>, 3B>, etc.). Use this selection to log out when you are finished using the computer.
- The logout message if you are assigned for automatic logout.

For further information on logging out, refer to Chapter 2, "Ending a Work Session."

Menu Modifications

You can also modify your menu to include other programs that you want to access with a single keystroke. The procedures for modifying the menu are covered in a separate *MENU Plus* manual supplied as part of your operating system documentation.

Summary

The menu provides a quick and simple way to access commands and programs, and you will probably want to use it most of the time. However, anytime you want to, you can exit from the menu and enter your commands in response to the system prompt. You can return to the menu from the system prompt by typing:

```
MENU [RET]
```

NOTICE: In the examples used throughout this manual to demonstrate system programs, the commands are given from the system prompt after leaving the menu. These examples tell you that to exit from the menu you should type a ">". This is correct for Concurrent DOS 8-16 Version 4.1D, but for Version 4.1E or later, you must type [ESC] to exit from the menu. In either case, simply follow the instructions given on the menu screen.

CHAPTER 4

Using Disks and Drives

The reason that computers are so useful is that they can process large quantities of data in a short time. That means that all this information must be stored and that it must be labeled in some way so that it can be identified and recalled when needed. Data is stored on floppy disks and hard disks, which will be discussed in this chapter, and the data is identified by filenames, which are discussed in the following chapter.

Floppy Disks

Floppy disks earned that name because they are flexible. They are made in two standard sizes, 8 inch and 5-1/4 inch, although the smaller size has become more common. If you have a CompuPro 286 computer, there is at least one 5-1/4-inch floppy disk drive located at the right front of the computer. When a 5-1/4-inch floppy has been formatted and is ready to use, it can store about 800K (800 kilobytes) of information. That is equal to about 800,000 characters or about 230 typed pages. A floppy disk is stored apart from the computer and is only put into the drive when the files or programs stored on it are needed.

Hard Disks

Hard disk drives are sealed units usually mounted inside the computer box, and they can store far more data than floppy disks. A typical hard disk drive can hold from 20 to 80 megabytes of data. That is 20- to 80-million pieces of information. The 20 megabyte disk will hold about 6000 typed pages and the 80 about 23,000 pages.

When there is this much storage area it must be organized in some way to make it useful. This is done in much the same way a filing cabinet is divided up into different storage areas, except the terminology is a bit different. The hard disk is divided into "logical drives," and each logical drive is divided into "users." The drive names and user numbers help you locate your information.

Drive Names and User Numbers

The hard disk drive is typically divided into four logical drives called A:, B:, C:, and D:. The floppy disk drive is called K:. If you have other drives hooked up to your system, ask the person who set them up for their names.

Each of the four logical drives is divided into sixteen user areas numbered from 0 to 15. Thus, "User 2" does not mean the second person using the computer; it tells the computer which part of the disk to use. Since there are four drives, each divided into sixteen user areas, you have 64 separate storage areas available.

To Use Another Disk or Drive

If you want to log onto a different drive or user number, press [ESC] to exit from the menu. In response to the system prompt, 0A> for example, type:

```
d: [RET]
```

where "d" is the letter name of the drive you want to use. The system prompt now reads 0D>.

USER -- To Use Another User Area

If you want to change the user area, type:

```
USER 4 [RET]
```

and the user prompt changes to 4D>. You can also change the drive and user area simultaneously by typing:

```
4d: [RET]
```

NOTE: Security features may prevent you from using the USER command.

SHOW -- Remaining Disk Space

Periodically you should check to see how much room remains in the current disk areas.

From the menu press > to run a program, then type:

```
SHOW [RET]
```

INITDIR.CMD

SYNTAX INITDIR (d:)

INITDIR is used to format the directory on CP/M media for time and date stamping. After you run INITDIR, you must run the SET command to turn on time and date stamping. See the SET command description for these instructions.

For further information on INITDIR, refer to the operating system HELP program.

MAKEDOS.CMD

SYNTAX: MAKEDOS

Concurrent DOS 8-16 version 4.1 has the ability to create a DOS media partition on hard disk drives by using the MAKEDOS command. On a 20 Mbyte hard disk the DOS partition will be Drive B:, and on 40 and 80 Mbyte drives it can be Drive C: or D: or both. This feature is particularly useful when using PC DOS programs that need to run on DOS media and have subdirectories.

To change the format of a drive, type:

```
MAKEDOS [RET]
```

MAKEDOS prompts you for the drive you wish to alter.

If you wish to change the drive back to CP/M format, type:

```
FORMAT d* [RET]
```

where "d" is the name of the drive. Note that the "d" is NOT followed by a colon and there is no space between it and the asterisk (*).

MFORM.CMD

```
SYNTAX: MFORM M
        MFORM M!
```

The MFORM command is used to format the MDrive/H board. This command is automatically executed by the operating system on power-up or reset. This should not be run with data in the MDrive/H, as the data is lost and the space is reclaimed!

If you want query confirmation that you really want to format your MDrive/H, type:

```
MFORM M  [RET]
```

To format without query confirmation, type:

```
MFORM M!  [RET]
```

The MFORM command that is automatically executed on power-up or reset is MFORM M!.

MKDIR.CMD

This is a command used for subdirectory creation when working on PC DOS media. For more information on MKDIR, refer to the operating system HELP program.

- ORDER

SYNTAX: ORDER

ORDER displays the file extension search order used by Concurrent DOS 8-16 to find a program when a file extension is not specified in a command. The file extension search sequence is:

```
CMD,COM,EXE,BAT,SUB
```

To display the search order, type:

```
ORDER  [RET]
```

PARK3.CMD

SYNTAX: PARK3 {DRIVE TYPE}

The PARK3 command is used to "park" the heads of certain hard disks drives in a safe place before moving or shipping. This command is only required with Shugart 10 Mbyte and NEC and Mitsubishi 20 Mbyte hard disk drives. The use of this command is fully documented under the PARK3 selection in the HELP menu.

CAUTION: Never move or ship a system with a 10 Mbyte or 20 Mbyte drive without PARKing the heads first! Failure to do so could seriously damage the drive heads and media.

Problem Cause	Remedy
Drive does not work	
Hardware failure in drive or controller.	Try another disk. Call service representative.
Only one terminal works	
	Make sure all the terminals are on.
Terminals plugged into wrong connector at back of computer.	Correct cables.
Single user system file in use.	Use a multi-user system file.
TTYS and/or LPRS files not present.	Check your TTYS and LPRS files. If they are not set up for more than one user, change them with your word processing program. Refer to your Concurrent DOS 8-16 Installation Guide. Call service representative.

Appendix C

Related Manuals

Below is a list of manuals that apply to specific features of the CompuPro system. You may need to refer to selected manuals for detailed information on a particular subject.

CompuPro Manuals

* CDOS 8-16 Installation and Customization Guide
* Menu Plus Manual
CompuPro 286 Installation Guide
CompuPro 286 User Guide
NET 100/101 Technical Manual
* AMCALL AND MCALL-II Instructions Manual
* AMCALL AND AMCALLN Supplement to AMCALL and MCALL-II Instructions Manual

* Included with operating system package.

Digital Research Manuals

Concurrent DOS Programmer's Kit - Includes Concurrent CP/M Operating System Programmer's Reference Guide and Version 4.1 Supplement and Concurrent CP/M System Guide and Version 4.1 Supplement. Can be ordered from CompuPro as Part #8222-0008.

DR Net Network Software Manual - Includes DR NET User Guide, Programmer's Guide, System Manager's Guide, System Guide, and System Guide Supplement Model NIOS Description. Can be ordered from CompuPro as Part #8224-0004.

DR Concurrent DOS Version 4.1 User Guide - Of limited use. Substantial portions apply to single user on PC's. Can be ordered from Digital Research Inc.

Appendix D

Programs Documented Elsewhere

MENU+ Programs

The following programs are documented in the *MENU PLUS* manual:

TXTED.CMD
MENU.BAT
MENU+.CMD
LSTED.CMD
UTILITYS.CMD
NOW.CMD
VF.CMD
VIEW.CMD
TYPER.CMD
ADDER.CMD
SELDIR.CMD
COMPARE.CMP

Appendix E

Other Undocumented Files

Below is a partial list of files that may be on your disks but are not documented in this manual. These files are important and you should never erase any of them for any reason without first checking with your service representative. Some of these are required for the system to run, and others will be needed if your system ever needs to be modified. Consult your *DOS Installation and Customization Guide.*

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AUTO.BAT
AUTO85.BAT
BANNER
CAP8085.CMD
CONSOLE0.BAT
CONSOLE1.BAT
CONSOLE2.BAT
CONSOLE3.BAT
CONSOLE4.BAT
CONSOLE5.BAT
CONTROL.BR
COPY5.BAT
COPY5A.BAT
COPY5PA.BAT
COPY8.BAT
COPY8P.BAT
DISK2.CMD
DISK3.CMD ←
DISK3.DAT
DSP.CMD
EMUL.BAT
INITDIR.CMD
MONTHLY
MOTD
QVT102.DAT
SPL.CMD
SPUZ.BAT
SPZ.CMD
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SW!EM.CMD
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